

# Stanford

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## Jack Rose

Postdoctoral Scholar, Dermatology

### Bio

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#### PROFESSIONAL EDUCATION

- Doctor of Medicine, University of Washington (2019)
- Master of Philosophy, University of Cambridge (2010)
- Doctor of Philosophy, University of Washington (2019)
- BS, Stanford University , Biological Sciences (2008)
- MPhil, University of Cambridge , Computational Biology (2010)
- PhD, University of Washington , Molecular and Cellular Biology (2017)
- MD, University of Washington (2019)

#### STANFORD ADVISORS

- Howard Chang, Postdoctoral Research Mentor

#### LINKS

- Chang Lab: <https://med.stanford.edu/changlab.html>

### Research & Scholarship

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#### LAB AFFILIATIONS

- Howard Chang, Chang Lab (3/3/2023)

### Publications

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#### PUBLICATIONS

- **The evolutionary dynamics of extrachromosomal DNA in human cancers.** *Nature genetics*  
Lange, J. T., Rose, J. C., Chen, C. Y., Pichugin, Y., Xie, L., Tang, J., Hung, K. L., Yost, K. E., Shi, Q., Erb, M. L., Rajkumar, U., Wu, S., Taschner-Mandl, et al  
2022
- **Suppression of unwanted CRISPR-Cas9 editing by co-administration of catalytically inactivating truncated guide RNAs.** *Nature communications*  
Rose, J. C., Popp, N. A., Richardson, C. D., Stephany, J. J., Mathieu, J., Wei, C. T., Corn, J. E., Maly, D. J., Fowler, D. M.  
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- **Rapidly inducible Cas9 and DSB-ddPCR to probe editing kinetics** *NATURE METHODS*  
Rose, J. C., Stephany, J. J., Valente, W. J., Trevillian, B. M., Dang, H. V., Bielas, J. H., Maly, D. J., Fowler, D. M.  
2017; 14 (9): 891-+
- **A computationally engineered RAS rheostat reveals RAS-ERK signaling dynamics** *NATURE CHEMICAL BIOLOGY*  
Rose, J. C., Huang, P., Camp, N. D., Ye, J., Leidal, A. M., Goresnik, I., Trevillian, B. M., Dickinson, M. S., Cunningham-Bryant, D., Debnath, J., Baker, D., Wolf-Yadlin, A., Maly, et al

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2017; 13 (1): 119-126

- **Disparate pathways for extrachromosomal DNA biogenesis and genomic DNA repair.** *Cancer discovery*  
Rose, J. C., Belk, J. A., Wong, I. T., Luebeck, J., Horn, H. T., Daniel, B., Jones, M. G., Yost, K. E., Hung, K. L., Kolahi, K. S., Curtis, E. J., Kuo, C. J., Bafna, et al  
2024
- **Computationally designed sensors detect endogenous Ras activity and signaling effectors at subcellular resolution.** *Nature biotechnology*  
Zhang, J. Z., Nguyen, W. H., Greenwood, N., Rose, J. C., Ong, S., Maly, D. J., Baker, D.  
2024
- **Disparate pathways for extrachromosomal DNA biogenesis and genomic DNA repair.** *bioRxiv : the preprint server for biology*  
Rose, J. C., Wong, I. T., Daniel, B., Jones, M. G., Yost, K. E., Hung, K. L., Curtis, E. J., Mischel, P. S., Chang, H. Y.  
2023
- **Designed sensors reveal normal and oncogenic Ras signaling in endomembranes and condensates**  
Zhang, J. Z., Nguyen, W. H., Rose, J. C., Ong, S., Maly, D. J., Baker, D.  
AMER ASSOC CANCER RESEARCH.2023
- **ecDNA hubs drive cooperative intermolecular oncogene expression.** *Nature*  
Hung, K. L., Yost, K. E., Xie, L., Shi, Q., Helmsauer, K., Luebeck, J., Schopflin, R., Lange, J. T., Chamorro Gonzalez, R., Weiser, N. E., Chen, C., Valieva, M. E., Wong, et al  
2021
- **DIFFERENTIAL LOCALIZATION OF AN ENGINEERED RAS RHEOSTAT REVEALS UNIQUE RAS-ERK SIGNALING DYNAMICS**  
Dieter, E. M., Rose, J., Maly, D.  
WILEY.2019: 158–59
- **A Chemically Disrupted Proximity System for Controlling Dynamic Cellular Processes** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*  
Cunningham-Bryant, D., Dieter, E. M., Foight, G. W., Rose, J. C., Loutey, D. E., Maly, D. J.  
2019; 141 (8): 3352–55
- **"Examining RAS pathway rewiring with a chemically inducible activator of RAS".** *Small GTPases*  
Rose, J. C., Dieter, E. M., Cunningham-Bryant, D., Maly, D. J.  
2018: 1–8
- **PAZOPANIB-INDUCED RHABDOMYOLYSIS IN THE SETTING OF HYPOTHYROIDISM**  
Crooks, C. P., Ghiathi, C., Rose, J. C., Redinger, J.  
SPRINGER.2018: S585
- **Rheostatic Control of Cas9-Mediated DNA Double Strand Break (DSB) Generation and Genome Editing** *ACS CHEMICAL BIOLOGY*  
Rose, J. C., Stephany, J. J., Wei, C. T., Fowler, D. M., Maly, D. J.  
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- **Principles of Systems Biology, No. 14** *CELL SYSTEMS*  
Erez, Z., Sorek, R., Shao, S., Hegde, R. S., Schweppe, D. K., Chavez, J. D., Bruce, J. E., Mizrachi, E., Verbeke, L., de Peer, Y., Marchal, K., Myburg, A. A., Bennett, et al  
2017; 4 (2): 140–43
- **Mechanisms of resistance to cabazitaxel.** *Molecular cancer therapeutics*  
Duran, G. E., Wang, Y. C., Francisco, E. B., Rose, J. C., Martinez, F. J., Collier, J., Brassard, D., Vignaud, P., Sikic, B. I.  
2015; 14 (1): 193-201
- **HTSanalyzeR: an R/Bioconductor package for integrated network analysis of high-throughput screens** *BIOINFORMATICS*  
Wang, X., Terfve, C., Rose, J. C., Markowitz, F.  
2011; 27 (6): 879–80
- **The expression of activator protein 2 (AP-2) transcription factors in MDR1(+) and MDR1(-) taxane resistant human breast carcinoma variants.**  
Rose, J., Duran, G., Sikic, B.  
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