Stanford

Jason Meyer Sheltzer

Assistant Professor of Radiation Oncology (Radiation and Cancer Biology)

Radiation Oncology - Radiation and Cancer Biology

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Radiation Oncology - Radiation and Cancer Biology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Faculty Fellow, Sarafan ChEM-H

ADMINISTRATIVE APPOINTMENTS

- Director, Cancer Bio PhD Admissions, (2026- present)

HONORS AND AWARDS

- Dorsey-Ford Faculty Scholar, Stanford University (2026)
- Basic Cancer Research Prize, Yale University Cancer Center (2024)
- Drug Discovery Innovation Award, The Mark Foundation (2023)
- Presidential Early Career Science and Engineering Award, The White House Office of Science and Technology Policy (2019)
- Innovation Award, Damon Runyon Cancer Research Foundation (2019)

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Yi Bei, Debanjan Bhattacharjee, Gregory Gauthier-Coles, Jessica Zhao

Publications

PUBLICATIONS

- **Paired CRISPR screens identify mitochondrial metabolism and UBE2H as aneuploid-specific dependencies in human cancer cell lines.** *bioRxiv : the preprint server for biology*

  Schukken, K. M., Akalu, S. M., Zou, C., Kandikuppa, P. K., Hagenson, R. A., Keane, J. L., Lynch, M. P., Yoshimoto, T., Klingbeil, O., Sausville, E. L., Mishra, S., Vakoc, C. R., Storchova, et al

  2026

- **Chromosome engineering to correct a complex rearrangement on Chromosome 8 reveals the effects of 8p syndrome on gene expression and neural differentiation.** *Genome research*

  Lee, S. N., Banda, E. C., Qiao, L., Thompson, S. L., Singh, K., Hagenson, R. A., Davoli, T., Pinter, S. F., Sheltzer, J. M.

2026; 36 (3): 547-560

- **A clinical-stage oncology compound selectively targets drug-resistant cancers.** *bioRxiv : the preprint server for biology*
  Long, K., Bhattacharjee, D., Newman-Stonebraker, S. H., Suhr, S., Mercado, B. Q., Scheib, E., Tighe, A., Romero, L., Thompson, S. L., Sausville, E. L., John, K. M., Julian, L., Mishra, et al
  2026
- **Protein buffering of aneuploidy is driven by coordinated factors identified through machine learning.** *Molecular systems biology*
  Heller, E. M., Barthel, K., Räschle, M., Schukken, K. M., Sheltzer, J. M., Storchová, Z.
  2026
- **Paralog Co-Targeting Identifies Selective Genetic Redundancies across Cancer Types** *CANCER DISCOVERY*
  Gauthier-Coles, G., Sheltzer, J. M.
  2024; 14 (12): 2312-2314
- **An elevated rate of whole-genome duplications in cancers from Black patients.** *Nature communications*
  Brown, L. M., Hagenson, R. A., Koklič, T., Urbančič, I., Qiao, L., Strancar, J., Sheltzer, J. M.
  2024; 15 (1): 8218
- **Evolving copy number gains promote tumor expansion and bolster mutational diversification** *NATURE COMMUNICATIONS*
  Wang, Z., Xia, Y., Mills, L., Nikolakopoulos, A. N., Maeser, N., Dehm, S. M., Sheltzer, J. M., Sun, R.
  2024; 15 (1): 2025
- **Inhibition of a lower potency target drives the anticancer activity of a clinical p38 inhibitor.** *Cell chemical biology*
  Bhattacharjee, D., Bakar, J., Chitnis, S. P., Sausville, E. L., Ashtekar, K. D., Mendelson, B. E., Long, K., Smith, J. C., Heppner, D. E., Sheltzer, J. M.
  2023; 30 (10): 1211-1222.e5
- **Oncogene-like addiction to aneuploidy in human cancers.** *Science (New York, N.Y.)*
  Girish, V., Lakhani, A. A., Thompson, S. L., Scaduto, C. M., Brown, L. M., Hagenson, R. A., Sausville, E. L., Mendelson, B. E., Kandikuppa, P. K., Lukow, D. A., Yuan, M. L., Stevens, E. C., Lee, et al
  2023; 381 (6660): eadg4521
- **Ricolinostat is not a highly selective HDAC6 inhibitor.** *Nature cancer*
  Médard, G., Sheltzer, J. M.
  2023; 4 (6): 807-808
- **Extensive protein dosage compensation in aneuploid human cancers.** *Genome research*
  Schukken, K. M., Sheltzer, J. M.
  2022; 32 (7): 1254-1270
- **Synthesis and Structure-Activity relationships of cyclin-dependent kinase 11 inhibitors based on a diaminothiazole scaffold.** *European journal of medicinal chemistry*
  Li, Z., Ishida, R., Liu, Y., Wang, J., Li, Y., Gao, Y., Jiang, J., Che, J., Sheltzer, J. M., Robers, M. B., Zhang, T., Westover, K. D., Nabet, et al
  2022; 238: 114433
- **Genome-wide identification and analysis of prognostic features in human cancers.** *Cell reports*
  Smith, J. C., Sheltzer, J. M.
  2022; 38 (13): 110569
- **Chromosomal instability and aneuploidy as causes of cancer drug resistance.** *Trends in cancer*
  Lukow, D. A., Sheltzer, J. M.
  2022; 8 (1): 43-53
- **Chromosomal instability accelerates the evolution of resistance to anti-cancer therapies.** *Developmental cell*
  Lukow, D. A., Sausville, E. L., Suri, P., Chunduri, N. K., Wieland, A., Leu, J., Smith, J. C., Girish, V., Kumar, A. A., Kendall, J., Wang, Z., Storchova, Z., Sheltzer, et al
  2021; 56 (17): 2427-2439.e4
- **A CRISPR Competition Assay to Identify Cancer Genetic Dependencies.** *Bio-protocol*
  Girish, V., Sheltzer, J. M.
  2020; 10 (14): e3682

- **Single-Chromosomal Gains Can Function as Metastasis Suppressors and Promoters in Colon Cancer.** *Developmental cell*
  Vasudevan, A., Baruah, P. S., Smith, J. C., Wang, Z., Sayles, N. M., Andrews, P., Kendall, J., Leu, J., Chunduri, N. K., Levy, D., Wigler, M., Storchová, Z., Sheltzer, et al
  2020; 52 (4): 413-428.e6

- **Discovering and validating cancer genetic dependencies: approaches and pitfalls.** *Nature reviews. Genetics*
  Lin, A. n., Sheltzer, J. M.
  2020

- **Increasing gender diversity in the STEM research workforce** *SCIENCE*
  Greider, C. W., Sheltzer, J. M., Cantalupo, N. C., Copeland, W. B., Dasgupta, N., Hopkins, N., Jansen, J. M., Joshua-Tor, L., McDowell, G. S., Metcalf, J. L., McLaughlin, B., Olivarius, A., O'Shea, et al
  2019; 366 (6466): 692-+

- **Off-target toxicity is a common mechanism of action of cancer drugs undergoing clinical trials.** *Science translational medicine*
  Lin, A., Giuliano, C. J., Palladino, A., John, K. M., Abramowicz, C., Yuan, M. L., Sausville, E. L., Lukow, D. A., Liu, L., Chait, A. R., Galluzzo, Z. C., Tucker, C., Sheltzer, et al
  2019; 11 (509)

- **Generating Single Cell-Derived Knockout Clones in Mammalian Cells with CRISPR/Cas9.** *Current protocols in molecular biology*
  Giuliano, C. J., Lin, A., Girish, V., Sheltzer, J. M.
  2019; 128 (1): e100

- **Systematic identification of mutations and copy number alterations associated with cancer patient prognosis.** *eLife*
  Smith, J. C., Sheltzer, J. M.
  2018; 7

- **MELK expression correlates with tumor mitotic activity but is not required for cancer growth.** *eLife*
  Giuliano, C. J., Lin, A., Smith, J. C., Palladino, A. C., Sheltzer, J. M.
  2018; 7

- **CRISPR/Cas9 mutagenesis invalidates a putative cancer dependency targeted in on-going clinical trials.** *eLife*
  Lin, A., Giuliano, C. J., Sayles, N. M., Sheltzer, J. M.
  2017; 6

- **Single-chromosome Gains Commonly Function as Tumor Suppressors.** *Cancer cell*
  Sheltzer, J. M., Ko, J. H., Replogle, J. M., Habibe Burgos, N. C., Chung, E. S., Meehl, C. M., Sayles, N. M., Passerini, V., Storchova, Z., Amon, A.
  2017; 31 (2): 240-255

- **A transcriptional and metabolic signature of primary aneuploidy is present in chromosomally unstable cancer cells and informs clinical prognosis.** *Cancer research*
  Sheltzer, J. M.
  2013; 73 (21): 6401-12

- **Transcriptional consequences of aneuploidy.** *Proceedings of the National Academy of Sciences of the United States of America*
  Sheltzer, J. M., Torres, E. M., Dunham, M. J., Amon, A.
  2012; 109 (31): 12644-9

- **Aneuploidy drives genomic instability in yeast.** *Science (New York, N.Y.)*
  Sheltzer, J. M., Blank, H. M., Pfau, S. J., Tange, Y., George, B. M., Humpton, T. J., Brito, I. L., Hiraoka, Y., Niwa, O., Amon, A.
  2011; 333 (6045): 1026-30