Stanford



Steven M. Corsello

Assistant Professor of Medicine (Oncology) and, by courtesy, of Chemical and Systems Biology

Medicine - Oncology

CLINICAL OFFICE (PRIMARY)

- **Stanford Cancer Center**

  875 Blake Wilbur Dr

  Clinic A MC 6560

  Stanford, CA 94305

  Tel (650) 498-6000 **Fax** (650) 723-8748

ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

  Suzette Rodriguez - Administrative Associate

  Email suzetter@stanford.edu

  Tel 650-497-1582

Bio

BIO

I am a physician scientist and medical oncologist at Stanford University. My laboratory operates at the intersection of functional genomics and chemical biology, with the goal of advancing novel molecular mechanisms of cancer inhibition to clinical use. We aim to 1) leverage phenotypic screening and functional genomics to determine novel anti-cancer mechanisms of small molecules, 2) develop new targeted therapy approaches against solid tumors, and 3) build a comprehensive community resource for drug repurposing discovery.

CLINICAL FOCUS

- Medical Oncology

ACADEMIC APPOINTMENTS

- Assistant Professor, Medicine - Oncology
- Assistant Professor (By courtesy), Chemical and Systems Biology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Faculty Fellow, Sarafan ChEM-H
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- The Josephine Q. Berry Faculty Scholar in Cancer Research, Stanford University, (2022- present)

HONORS AND AWARDS

- Drug Discovery Award, The Mark Foundation for Cancer Research (2026)
- NextGen Star, American Association for Cancer Research (2026)
- Clinical Investigator Award, Damon Runyon Cancer Research Foundation (2024)
- Shmunis Family Innovation Award in Cancer Therapeutics, Stanford Cancer Institute (2023)

- The 20 under 40 in BioPharma, Endpoints News (2020)
- Young Physician Scientist Award, American Society for Clinical Investigation (2020)
- K08 Clinical Scientist Research Career Development Award, National Cancer Institute (2018)
- Next Generation Award, Broad Institute (2018)
- Young Investigator Award, American Society of Clinical Oncology (2014)
- Howard Hughes Medical Institute Research Fellowship, HHMI (2005)
- Alexandra J. Miliotis Research Fellowship in Pediatric Oncology, Miliotis Foundation (2004)
- Phi Beta Kappa, Harvard University (2003)
- Thomas Temple Hoopes Prize for outstanding senior thesis, Harvard University (2003)

PROFESSIONAL EDUCATION

- Board Certification: Internal Medicine, American Board of Internal Medicine (2023)
- Board Certification: Hematology, American Board of Internal Medicine (2014)
- Board Certification: Medical Oncology, American Board of Internal Medicine (2014)
- Fellowship: Dana Farber Cancer Institute Hematology Oncology Fellowship (2014) MA
- Residency: Massachusetts General Hospital Internal Medicine Residency (2011) MA
- Medical Education: Harvard Medical School (2008) MA
- AB, Harvard University , Biochemical Sciences (2003)

LINKS

- Corsello Lab Website: http://corsellolab.stanford.edu

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our laboratory operates at the intersection of functional genomics and chemical biology, with the goal of advancing novel molecular mechanisms of cancer inhibition to clinical use. We aim to 1) leverage phenotypic screening and functional genomics to determine novel anti-cancer mechanisms of small molecules, 2) develop new targeted therapy approaches against solid tumors, and 3) build a comprehensive community resource for drug repurposing discovery.

CLINICAL TRIALS

- A Study of an FGFR2/3 Inhibitor (CGT4859) in Patients With Cholangiocarcinoma and Other Advanced Solid Tumors, Not Recruiting

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Leyna Duong, Elizabeth Ener, Gabriel Lopez Lopez, Ellen Morgan, Meredith Nix, Santiago Sanchez

Orals Chair

William Shi

Postdoctoral Faculty Sponsor

Peyton High, Da Won Kim

Doctoral Dissertation Advisor (AC)

Pallas Chou, Ethan Garvin, George Lantz, Michelle Tang

Doctoral Dissertation Co-Advisor (AC)

Nick Phillips

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (PhD Program)
- Oncology (Fellowship Program)

Publications

PUBLICATIONS

- **A BromoTag-Based Toolkit for Rapid Modulation of Chemically Induced Proximity.** *ACS chemical biology*
  Colombo, G. M., Kim, D., Hassan, M. M., Corsello, S. M.
  2026

- **Ratiometric transcriptional activation by protein degradation.** *Cell*
  Gray, M. A., Randal, K. L., Co, J. A., Tang, M. T., Xue, A. Z., Chen, S. W., Razumkov, H., Omran, Q. Q., Solow-Cordero, D. E., Yu, J., Robinson, S. A., Starnbach, C. A., Gray, et al
  2026

- **Immune and stromal features of durable complete response to radiation and dual immune checkpoint blockade in pancreatic cancer.** *medRxiv : the preprint server for health sciences*
  Kang, S., Parikh, M., Pappas, L., Bi, L., Koenig, J. L., Yeap, B. Y., Carzo, N., Grillo, T. M., Baiev, I., Asupoto, O., Lako, A., Gushterova, I., Carmona-LaSalle, et al
  2026

- **Mutational scanning reveals substrate-assisted autoregulation of the WNT destruction complex.** *Nature genetics*
  Padmanarayana, M., Sakalas, S., Sarkar, P., Ma, M., Garvin, E. R., Lee, E., Corsello, S. M., Guettler, S., Pusapati, G. V., Rohatgi, R.
  2026

- **The molecular basis for nuclear pore destruction by a proximity-inducing molecular glue.** *Cell chemical biology*
  Hinshaw, S. M., Yuan, L., Noman, M. A., Martinez, M. J., Colombo, G. M., Dwyer, B. G., Ji, W., Romero, B. A., Forrest, I., Lu, J., Bian, J., Dunn, T. B., Garvin, et al
  2026

- **Ratiometric transcriptional activation by protein degradation.** *bioRxiv : the preprint server for biology*
  Gray, M. A., Randal, K. L., Co, J. A., Tang, M. T., Xue, A. Z., Chen, S. W., Razumkov, H., Omran, Q. Q., Solow-Cordero, D. E., Yu, J., Robinson, S. A., Starnbach, C. A., Gray, et al
  2026

- **Discovery of TRIM21 molecular glues that drive potent anti-tumor efficacy via nuclear pore complex degradation**
  Corsello, S. M.
  AMER ASSOC CANCER RESEARCH.2026: NG07

- **Insights on Future Directions in Cancer Research from the 2026 AACR NextGen Stars.** *Cancer discovery*
  Au, C. C., Azorín, D. D., Carrot-Zhang, J., Corsello, S. M., Curiel-Garcia, A., Freed-Pastor, W., Grippin, A. J., Nguyen, L. C., Pillai, R., Sreekumar, A., Zabransky, D. J.
  2026; 16 (4): 670-676

- **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

- **Mutational scanning reveals substrate-assisted autoregulation of the WNT destruction complex.** *bioRxiv : the preprint server for biology*
  Padmanarayana, M., Sakalas, S., Sarkar, P., Ma, M., Garvin, E. R., Lee, E., Corsello, S. M., Guettler, S., Pusapati, G. V., Rohatgi, R.
  2025

- **Therapeutic targeting of the nuclear pore complex with molecular glue degraders in pancreatic cancer**
  Yuan, L., Ji, W., Dwyer, B. G., Lu, J., Bian, J., Colombo, G. M., Martinez, M. J., Fernandez, D., Phillips, N. A., Tang, M. T., Zhou, C. W., Jones, H. M., Calla, et al
  AMER ASSOC CANCER RESEARCH.2025

- **Defining the antitumor mechanism of action of a clinical-stage compound as a selective degrader of the nuclear pore complex.** *Cancer discovery*
  Yuan, L., Ji, W., Dwyer, B. G., Lu, J., Bian, J., Colombo, G. M., Martinez, M. J., Fernandez, D., Phillips, N. A., Tang, M. T., Zhou, C. W., Quispe Calla, N. E., Guzman Huancas, et al
  2025

- **Development of Potent and Selective CK1α Molecular Glue Degraders.** *Journal of medicinal chemistry*
  Geng, Q., Jiang, Z., Byun, W. S., Donovan, K. A., Zhuang, Z., Jiang, F., Jones, H. M., Razumkov, H., Tang, M. T., Sarott, R. C., Fischer, E. S., Corsello, S. M., Hinshaw, et al
  2025

- **Modernizing the NCI60 Cell Line Screen for Phenotypic Drug Discovery in the 21st Century.** *Cancer research*
  Colombo, G. M., Corsello, S. M.
  2024; 84 (15): 2397-2399

- **RAS/RAF co-mutation and ERBB2 copy number modulates HER2 heterogeneity and responsiveness to HER2-directed therapy in colorectal cancer.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Singh, H., Sahgal, P., Kapner, K., Corsello, S. M., Gupta, H., Gujrathi, R., Li, Y. Y., Cherniack, A. D., El Alam, R., Kerfoot, J., Andrews, E., Lee, A., Nambiar, et al
  2024

- **Proteomics-Based Discovery of First-in-Class Chemical Probes for Programmed Cell Death Protein 2 (PDCD2).** *Angewandte Chemie (International ed. in English)*
  Ji, W., Byun, W. S., Lu, W., Zhu, X., Donovan, K. A., Dwyer, B., Che, J., Yuan, L., Abulaiti, X., Corsello, S. M., Fischer, E. S., Zhang, T., Gray, et al
  2023: e202308292

- **Structure-Based Design of Y-Shaped Covalent TEAD Inhibitors.** *Journal of medicinal chemistry*
  Lu, W., Fan, M., Ji, W., Tse, J., You, I., Ficarro, S. B., Tavares, I., Che, J., Kim, A. Y., Zhu, X., Boghossian, A., Rees, M. G., Ronan, et al
  2023

- **Programmatic Precision Oncology Decision Support for Patients With Gastrointestinal Cancer.** *JCO precision oncology*
  Keller, R. B., Mazor, T., Sholl, L., Aguirre, A. J., Singh, H., Sethi, N., Bass, A., Nagaraja, A. K., Brais, L. K., Hill, E., Hennessey, C., Cusick, M., Del Vecchio Fitz, et al
  2023; 7: e2200342

- **RNF43 G659fs is an oncogenic and immune- modulating colorectal cancer mutation and sensitizes tumor cells to PI3K/mTOR inhibition.**
  Giannakis, M., Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Xiong, X., Gurjao, C., Grandclaudon, M., Raghavan, S., Corsello, S. M., Carr, S. A., Udeshi, N., Berstler, et al
  AMER ASSOC CANCER RESEARCH.2022

- **Virtual screening for small-molecule pathway regulators by image-profile matching.** *Cell systems*
  Rohban, M. H., Fuller, A. M., Tan, C., Goldstein, J. T., Syangtan, D., Gutnick, A., DeVine, A., Nijsure, M. P., Rigby, M., Sacher, J. R., Corsello, S. M., Peppler, G. B., Bogaczynska, et al
  2022

- **Discovery of potent and selective CSNK1A1 inhibitors for solid tumor therapy**
  Corsello, S. M., Zhang, H., Rupaimoole, R., Schulze, V. K., Lemos, C., Handing, K. B., Orsi, D. L., Shekhar, M., Sack, U., Christian, S., Bone, W., Humeidi, R., Colgan, et al
  AMER ASSOC CANCER RESEARCH.2022

- **RNF43 G659fs is an oncogenic colorectal cancer mutation and sensitizes tumor cells to PI3K/mTOR inhibition.** *Nature communications*
  Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Xiong, X., Gurjao, C., Grandclaudon, M., Raghavan, S., Corsello, S. M., Carr, S. A., Udeshi, N. D., Berstler, J., Sicinska, et al
  2022; 13 (1): 3181

- **Copper induces cell death by targeting lipoylated TCA cycle proteins (vol 375, 1254, 2022)** *SCIENCE*

Tsvetkov, P., Coy, S., Petrova, B., Dreishpoon, M., Verma, A., Abdusamad, M., Rossen, J., Joesch-Cohen, L., Humeidi, R., Spangler, R. D., Eaton, J. K., Frenkel, E., Kocak, et al

2022; 376 (6591)

- **Copper induces cell death by targeting lipoylated TCA cycle proteins.** *Science (New York, N.Y.)*

  Tsvetkov, P., Coy, S., Petrova, B., Dreishpoon, M., Verma, A., Abdusamad, M., Rossen, J., Joesch-Cohen, L., Humeidi, R., Spangler, R. D., Eaton, J. K., Frenkel, E., Kocak, et al

  2022; 375 (6586): 1254-1261

- **RNF43 G659fs is an oncogenic mutation in colorectal cancer and sensitizes tumor cells to PI3K/mTOR inhibition.**

  Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Gurjao, C., Grandclaudon, M., Corsello, S. M., Raghavan, S., Udeshi, N., Berstler, J., Sicinska, E., Ng, K., Giannakis, et al

  AMER ASSOC CANCER RESEARCH.2021

- **Adenosine receptor antagonists exhibit potent and selective off-target killing of FOXA1-high cancers**

  Corsello, S. M., Spangler, R. D., Humeidi, R., Harrington, C. N., Nagari, R. T., Singh, R., Wang, V., Kocak, M., Rossen, J., Madec, A., Dumont, N., Golub, T. R.

  AMER ASSOC CANCER RESEARCH.2020

- **The CDK inhibitor CR8 acts as a molecular glue degrader that depletes cyclin K** *NATURE*

  Slabicki, M., Kozicka, Z., Petzold, G., Li, Y., Manojkumar, M., Bunker, R. D., Donovan, K. A., Sievers, Q. L., Koeppel, J., Suchyta, D., Sperling, A. S., Fink, E. C., Gasser, et al

  2020; 585 (7824): 293-+

- **Discovering the anticancer potential of non-oncology drugs by systematic viability profiling** *NATURE CANCER*

  Corsello, S. M., Nagari, R. T., Spangler, R. D., Rossen, J., Kocak, M., Bryan, J. G., Humeidi, R., Peck, D., Wu, X., Tang, A. A., Wang, V. M., Bender, S. A., Lemire, et al

  2020; 1 (2): 235-+

- **Intrinsic Resistance to Immune Checkpoint Blockade in a Mismatch Repair-Deficient Colorectal Cancer** *CANCER IMMUNOLOGY RESEARCH*

  Gurjao, C., Liu, D., Hofree, M., AlDubayan, S. H., Wakiro, I., Su, M., Felt, K., Gjini, E., Brais, L. K., Rotem, A., Rosenthal, M. H., Rozenblatt-Rosen, O., Rodig, et al

  2019; 7 (8): 1230-1236

- **Novel cell line barcoding method reveals tepoxalin as a selective drug against MDR1-high tumor cells**

  Corsello, S. M., Spangler, R. D., Nagari, R. T., Kocak, M., Rossen, J., O'Hearn, P., Roth, J., Gonzalez, A., Dumont, N., Doench, J., Boehm, J. S., Vazquez, F., Tsherniak, et al

  AMER ASSOC CANCER RESEARCH.2019

- **Characterization of intratumoral heterogeneity in drug sensitivity and modeling of drug combination effects using subclonal cell populations derived from a single breast cancer cell line**

  Kuiken, H. J., Friend, C. M., Corsello, S. M., Mader, C. C., Brugge, J. S.

  AMER ASSOC CANCER RESEARCH.2019

- **Structure of Casein Kinase 1A as a Tool in Rational Drug Design.**

  Handing, K., Corsello, S. M., Stefan, E., Castan, I., Nagari, R., Gelles-Watnick, S., Gale, J., Kaushik, V., Hilgraf, R., Mulrooney, C., Emmith, K., Lemke, C., Garvie, et al

  WILEY.2018: 199-200

- **A Next Generation Connectivity Map: L1000 Platform and the First 1,000,000 Profiles** *CELL*

  Subramanian, A., Narayan, R., Corsello, S. M., Peck, D. D., Natoli, T. E., Lu, X., Gould, J., Davis, J. F., Tubelli, A. A., Asiedu, J. K., Lahr, D. L., Hirschman, J. E., Liu, et al

  2017; 171 (6): 1437-+

- **Assigning clinical meaning to somatic and germ-line whole-exome sequencing data in a prospective cancer precision medicine study** *GENETICS IN MEDICINE*

  Ghazani, A. A., Oliver, N. M., Pierre, J., Garofalo, A., Rainville, I. R., Hiller, E., Treacy, D. J., Rojas-Rudilla, V., Wood, S., Bair, E., Parello, M., Huang, F., Giannakis, et al

  2017; 19 (7): 787-795

- **The Drug Repurposing Hub: a next-generation drug library and information resource** *NATURE MEDICINE*

Corsello, S. M., Bittker, J. A., Liu, Z., Gould, J., McCarren, P., Hirschman, J. E., Johnston, S. E., Vrcic, A., Wong, B., Khan, M., Asiedu, J., Narayan, R., Mader, et al
2017; 23 (4): 405-+

- **Systematic Functional Interrogation of Rare Cancer Variants Identifies Oncogenic Alleles** *CANCER DISCOVERY*
  Kim, E., Ilic, N., Shrestha, Y., Zou, L., Kamburov, A., Zhu, C., Yang, X., Lubonja, R., Tran, N., Nguyen, C., Lawrence, M. S., Piccioni, F., Bagul, et al
  2016; 6 (7): 714-726

- **Reference pharmacologic class analysis for Connectivity Map discovery**
  Corsello, S. M., Narayan, R., Gould, J., Natoli, T. E., Lu, X., Subramanian, A., Golub, T. R.
  AMER ASSOC CANCER RESEARCH.2015

- **A Functional Landscape of Resistance to ALK Inhibition in Lung Cancer** *CANCER CELL*
  Wilson, F. H., Johannessen, C. M., Piccioni, F., Tamayo, P., Kim, J., Van Allen, E. M., Corsello, S. M., Capelletti, M., Calles, A., Butaney, M., Sharifnia, T., Gabriel, S. B., Mesirov, et al
  2015; 27 (3): 397-408

- **Identification of AML1-ETO modulators by chemical genomics** *BLOOD*
  Corsello, S. M., Roti, G., Ross, K. N., Chow, K. T., Galinsky, I., DeAngelo, D. J., Stone, R. M., Kung, A. L., Golub, T. R., Stegmaier, K.
  2009; 113 (24): 6193-6205

- **Does androgen deprivation therapy in men with prostate cancer increase cardiovascular morbidity?** *NATURE CLINICAL PRACTICE UROLOGY*
  Corsello, S. M., Kantoff, P. W.
  2008; 5 (2): 80-81

- **Gefitinib induces myeloid differentiation of acute myeloid leukemia** *BLOOD*
  Stegmaier, K., Corsello, S. M., Ross, K. N., Wong, J. S., DeAngelo, D. J., Golub, T. R.
  2005; 106 (8): 2841-2848