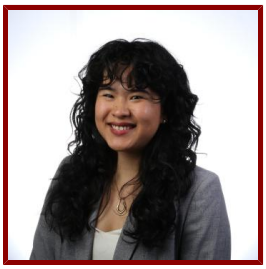
Stanford



Christine Yiwen Yeh

- MD Student, expected graduation Spring 2026
- Ph.D. Student in Biomedical Data Science, admitted Autumn 2020
- MSTP Student

Bio

BIO

Christine Yeh is an aspiring physician-scientist with academic training and industry experience in translational bioinformatics and data science. Christine is currently a sixth year MD/PhD candidate in the Medical Scientist Training Program (MSTP) at Stanford. She is interested in advancing cancer care through the integration of clinical oncology, computational cancer biology, and translational research, with the goal of developing more precise and effective therapies. In June 2025, she completed her PhD in Biomedical Data Science. In her doctoral work she developed a novel unsupervised machine learning pipeline grounded in principles of algorithmic fairness and applied it to single-cell spatial transcriptomics and CRISPR-based functional genomics to identify mechanisms of immune evasion and therapeutic vulnerabilities in tubo-ovarian cancer. Prior to MD/PhD training, Christine was a computational structural biologist and drug discovery scientist at D. E. Shaw Research in New York City. There, she built machine learning algorithms for investigating protein structural dynamics and worked on several early drug discovery programs for diabetes and immuno-oncology indications. Christine’s drug target panel included non-receptor protein tyrosine phosphatases encoded by PTPN1 and PTPN11. Her work led to peer-reviewed publications describing lead compounds and a novel small molecule therapeutic that advanced to and completed early phase clinical trials.

HONORS AND AWARDS

- Kenneth and Nina Tai Graduate Fellow, Stanford Graduate Fellowship in Science & Engineering (2020-2025)
- Future of Science Award, Keystone Symposium: "Precision Oncology: Emerging Technologies and Implementation" (2025)
- Research Abstract Competition Finalist, Human Proteome Organization World Congress (2017)
- Firestone Medal for Excellence in Research, Stanford Vice Provost of Undergraduate Education (2016)
- Award of Excellence, Stanford Alumni Association (2016)

EDUCATION AND CERTIFICATIONS

- Doctor of Philosophy, Stanford University , BMDS-PHD (2025)
- Master of Science, Stanford University , BIOM-MS (2017)
- Bachelor of Science, Stanford University , BIO-BSH (2016)
- BS, Stanford University , Molecular, Cellular, and Developmental Biology (Honors)
- MS, Stanford University School of Medicine , Biomedical Informatics
- PhD, Stanford University School of Medicine , Biomedical Data Science

Professional

WORK EXPERIENCE

- Bioinformatics Intern - Genentech, Inc.
- Scientific (Structural Biology & Drug Discovery) Associate - D. E. Shaw Research, LLC

Publications

PUBLICATIONS

- **Robust self-supervised machine learning for single cell embeddings and annotations.** *bioRxiv : the preprint server for biology*
  Yeh, C. Y., Sun, M. W., Zhu, D., Jerby, L.
  2025
- **Curriculum Design in an Evolving Field: Perspectives on Biomedical Data Science from Stanford.** *Annual review of biomedical data science*
  Yeh, C. Y., Wall, D. P., Matthys, K., Sabatti, C., Palacios, J.
  2025
- **Mapping spatial organization and genetic cell-state regulators to target immune evasion in ovarian cancer.** *Nature immunology*
  Yeh, C. Y., Aguirre, K., Laveroni, O., Kim, S., Wang, A., Liang, B., Zhang, X., Han, L. M., Valbuena, R., Bassik, M. C., Kim, Y. M., Plevritis, S. K., Snyder, et al
  2024
- **A Conserved Local Structural Motif Controls the Kinetics of PTP1B Catalysis.** *Journal of chemical information and modeling*
  Yeh, C. Y., Izaguirre, J. A., Greisman, J. B., Willmore, L., Maragakis, P., Shaw, D. E.
  2023
- **Discovery and Validation of the Binding Poses of Allosteric Fragment Hits to Protein Tyrosine Phosphatase 1b: From Molecular Dynamics Simulations to X-ray Crystallography.** *Journal of chemical information and modeling*
  Greisman, J. B., Willmore, L., Yeh, C. Y., Giordanetto, F., Shahamadtar, S., Nisonoff, H., Maragakis, P., Shaw, D. E.
  2023
- **Assessing biological and technological variability in protein levels measured in pre-diagnostic plasma samples of women with breast cancer** *Biomarker Research*
  Yeh, C. Y., Adusumilli, R., Kullolli, M., Mallick, P., John, E. M., Pitteri, S. J.
  2017; 5: 30
- **Temporal and spatial composition of the tumor microenvironment predicts response to immune checkpoint inhibition in metastatic TNBC.** *Nature cancer*
  Greenwald, N. F., Nederlof, I., Sowers, C., Ding, D. Y., Park, S., Kong, A., Houlahan, K. E., Varra, S. R., de Graaf, M., Geurts, V., Liu, C. C., Ranek, J. S., Voorwerk, et al
  2026
- **Spatial transcriptomics reveals tumor-brain expression convergence and identifies prognostic gene signatures in breast cancer brain metastases**
  Garcia, M., Yeh, C., Perez, P., Barisano, G., Vogel, H., West, R., Angelo, M., Tian, L., Plevritis, S., Gephart, M.
  OXFORD UNIV PRESS INC.2025: v465-v466
- **Cancer cell phagocytosis induces an anti-inflammatory gene regulatory program in macrophages.** *bioRxiv : the preprint server for biology*
  Zhang, C. R., Xiong, L., Gu, M., Yeh, C. Y., Jerby, L., Kundaje, A., Greenleaf, W. J., Bassik, M. C.
  2025
- **Distinct type I and II interferon responses direct cortical and medullary thymic epithelial cell development.** *Science immunology*
  Mohammed, A., Wang, W., Arreola, M., Solomon, B. D., Slepicka, P. F., Hubka, K. M., Nguyen, H. D., Zheng, Z., Chavez, M. G., Yeh, C. Y., Kim, D. K., Ma, M. R., Martin, et al
  2025; 10 (107): eado4720
- **Temporal and spatial composition of the tumor microenvironment predicts response to immune checkpoint inhibition.** *bioRxiv : the preprint server for biology*

Greenwald, N. F., Nederlof, I., Sowers, C., Ding, D. Y., Park, S., Kong, A., Houlahan, K. E., Varra, S. R., de Graaf, M., Geurts, V., Liu, C. C., Ranek, J. S., Voorwerk, et al

2025

- **Mapping ovarian cancer spatial organization uncovers immune evasion drivers at the genetic, cellular, and tissue level** *American Association for Cancer Research*

  Aguirre, K., Yeh, C. Y., Laveroni, O.

  2024

- **CCL8/CCL13-producing tumor-associated macrophages linked to poor outcomes after CAR T cell therapy for LBCL** *American Society of Hematology*

  Mo, K. C., Yeh, C. Y., Hamilton, M. P., Spiegel, J., Desai, M., Ehlinger, Z., Reynolds, W. D., Yang, E., Ozawa, M. G., Chen, Y., Prabhu, S., Frank, M. J., Muffly, et al

  2024

- **Malignant Cell Driven Immune Evasion in Ovarian Cancer** *Single Cell Cancer Biology Gordon Research Conference*

  Yeh, C. Y., Aguirre, K., Laveroni, O., Kim, S., Wang, A., Liang, B., Zhang, X., Han, L. M., Valbuena, R., Plevritis, S. K., Bassik, M. C., Snyder, M. P., Howitt, et al

  2024

- **Lineage tracing of CAR T cells in patients with B cell malignancies** *American Association for Cancer Research*

  Good, Z., Hamilton, M. P., Spiegel, J. Y., Kurra, S., Desai, M. H., Prabhu, S., Chiou, S., Yeh, C. Y., Chen, Y., Yang, E., Ozawa, M. G., Wu, F., Gursharan, et al

  2023

- **Reconstructing codependent cellular cross-talk in lung adenocarcinoma using REMI.** *Science advances*

  Yu, A., Li, Y., Li, I., Ozawa, M. G., Yeh, C., Chiou, A. E., Trope, W. L., Taylor, J., Shrager, J., Plevritis, S. K.

  2022; 8 (11): eabi4757

- **A Conserved Local Structural Motif Controls the Kinetics of PTP1b Catalysis**

  Yeh, C. Y., Izaguirre, J., Greisman, J., Willmore, L., Maragakis, P., Shaw, D. E.

  CELL PRESS.2020: 518A

- **Integrative Personal Omics Profiles during Periods of Weight Gain and Loss.** *Cell systems*

  Piening, B. D., Zhou, W. n., Contrepois, K. n., Röst, H. n., Gu Urban, G. J., Mishra, T. n., Hanson, B. M., Bautista, E. J., Leopold, S. n., Yeh, C. Y., Spakowicz, D. n., Banerjee, I. n., Chen, et al

  2018

- **Vitamin D supplementation decreases serum 27-hydroxycholesterol in a pilot breast cancer trial.** *Breast cancer research and treatment*

  Going, C. C., Alexandrova, L. n., Lau, K. n., Yeh, C. Y., Feldman, D. n., Pitteri, S. J.

  2017