Stanford

Zinaida Good, Ph.D.

Assistant Professor of Medicine (Immunology and Rheumatology)

Medicine - Immunology & Rheumatology

NIH Biosketch available Online Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Associate**

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Bio

BIO

Zinaida Good, Ph.D., is an Assistant Professor of Medicine in the Division of Immunology and Rheumatology and the Center for Biomedical Informatics Research at the Stanford University School of Medicine and the Director of the Cancer Cell Therapy Data Hub at the Stanford Center for Cancer Cell Therapy. Her research program focuses on understanding and enhancing engineered T cell immunotherapies for cancer and immune-mediated diseases through innovative computational approaches and systems immunology. During her postdoctoral training with Drs. Crystal Mackall and Sylvia Plevritis, Dr. Good performed fate mapping studies to identify features of optimal CAR T cells in large B cell lymphoma (LBCL) and diffuse midline glioma (DMG), and discovered the role of CAR T regulatory cells in resistance to CD19-CAR in LBCL. She earned her Ph.D. in Computational & Systems Immunology from Stanford University, where she trained with Drs. Garry Nolan and Sean Bendall and developed methods to build and leverage lymphocyte differentiation trajectories in health and cancer. Dr. Good's background in experimental immunology and oncology combines two years of experience in Discovery Oncology at Genentech with B.S. and M.S. degrees in Microbiology & Immunology from the University of British Columbia, where she investigated mechanisms of T cell memory with Dr. Michael Gold. Dr. Good's work includes 4 first-author papers (Nature Medicine 2018 & 2022, Nature Biotechnology 2019, Trends in Immunology 2019), 18+ co-authored papers (including Nature 2019, 2022, 2024, Science 2021, Nature Methods 2016, 2022, and NEJM 2024), and a multinational patent. Her research is supported by the NIH Pathway to Independence Award, Parker Institute for Cancer Immunotherapy Bridge Fellowship, American Cancer Society Institutional Research Grant, and Parker Institute for Cancer Immunotherapy Innovation Challenge Grant. Dr. Good has been named an Arthur & Sandra Irving Cancer Immunology Fellow in 2022 and an AACR-Woman in Cancer Research Scholar in 2024.

ACADEMIC APPOINTMENTS

- Assistant Professor, Medicine - Immunology & Rheumatology
- Member, Bio-X
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- Investigator, Weill Cancer Hub West (Team PROMISE), (2025- present)
- Director, Stanford Cancer Cell Therapy Data Hub, (2024- present)

- Investigator, Parker Institute for Cancer Immunotherapy, (2017- present)

HONORS AND AWARDS

- NIH Multimodal AI Initiative Award, National Institutes of Health (OD OT2) (2025 – 2027)
- NIH Pathway to Independence Award, National Institutes of Health (NCI K99/R00) (2024 – 2029)
- ACS-SCI Institutional Research Grant Pilot Project, American Cancer Society (2024 – 2025)
- Kona Innovation Challenge Award, Parker Institute for Cancer Immunotherapy (2024 – 2025)
- AACR Woman in Cancer Research Scholar, American Association for Cancer Research (2024)
- Parker Bridge Fellow, Parker Institute for Cancer Immunotherapy (2023 – 2026)
- Arthur and Sandra Irving Fellow, Arthur and Sandra Irving Cancer Immunology Symposium (2022)
- NK and Irene Cheung Family Scholar, Keystone Symposia (2022)
- Stanford Cancer Institute Fellow, Stanford Cancer Institute (2020 – 2021)
- ASH Abstract Achievement Award, American Society of Hematology (2019)
- Parker Scholar, Parker Institute for Cancer Immunotherapy (2018 – 2020)
- Keystone Symposium Scholar, Keystone Symposia (2018)
- Featured Wikipedia Editor, Wikimedia Foundation (2013)
- Member of the DARPA Shredder Challenge Winning Team “All Your Shreds Are Belong to Us”, Defense Advanced Research Projects Agency (2011)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Stanford Cancer Institute (2025 - present)
- Member, Society for Immunotherapy of Cancer (2021 - present)
- Member, American Society of Hematology (2019 - present)
- Associate Member, American Association for Cancer Research (2016 - present)
- Member, International Society for the Advancement of Cytometry (2016 - 2018)
- Member, International Society for Stem Cell Research (2015 - 2016)
- Member, Canadian Society for Immunology (2009 - 2012)
- Member, American Association for the Advancement of Science (2009 - 2011)
- Member, Canadian Student Biotechnology Network (2005 - 2011)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Stanford University , Immunology - Computational & Systems Immunology (2018)
- Master of Science, University of British Columbia , Microbiology & Immunology (2012)
- Bachelor of Science, University of British Columbia , Microbiology & Immunology (2008)

SERVICE, VOLUNTEER, AND COMMUNITY WORK

- Wikipedia Editor (January 2007)
- Invited Mentor, Beyond B.Sc. Conference (March 2010 - March 2011)
- Performer, Living Lab Theater Troupe (January 2009 - May 2010)
- Rollerblader, Vancouver Olympic Games Opening Ceremony (August 2009 - February 2010)
- Organizing Member, World AIDS Day Organizing Committee (September 2008 - December 2009)
- Graduation Coordinator, Microbiology and Immunology Student Association (March 2007 - May 2008)
- Green Genes Club Member (May 2007 - December 2007)

- Wellness Peer Educator, UBC Wellness Center (August 2004 - May 2006)

PATENTS

- Good Z, Nolan GP, Bendall SC, Weber EW, and Mackall CL. "United States Patent 12,024,716 Compositions and methods of expansions of T cell populations", Leland Stanford Junior University, Jul 2, 2024

LINKS

- LinkedIn: https://www.linkedin.com/in/zinaidagood/
- Cancer Cell Therapy Data Hub: https://med.stanford.edu/cancer-cell-therapy/center-for-cancer-cell-therapy-data-hub.html
- Lab Website: https://www.zinagoodlab.com/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

AI-driven engineered T cell therapies for cancer and autoimmune diseases

Our overarching goal is to lay the foundations for a clinically informed T cell design through machine learning algorithms, eventually enabling artificial intelligence (AI) systems to nominate specific genetic edits for improved clinical outcomes. We leverage innovation in machine learning and clinical multi-omic T cell therapy datasets to build AI systems at scale to enable broad generalization.

Our laboratory integrates cutting-edge synthetic biology, immunology, and machine learning to engineer next-generation T cell therapies for cancer and autoimmune diseases. The lab has three major research areas:
- Analysis of clinical single-cell sequencing and spatial transcriptomics datasets from T cell therapy trials to identify mechanisms of resistance
- Building AI systems to generate T cell designs predicted to improve patient outcomes and reduce toxicity
- Conducting genetic screens and evaluating novel T cell designs in cell culture and animal models that mimic mechanisms of resistance observed in patients

The Good Lab is part of the Division of Immunology and Rheumatology and the Division of Computational Medicine within the Department of Medicine at Stanford University. We're also a part of the Stanford Center for Cancer Cell Therapy, where Dr. Good leads the center's Data Hub. We are members of the Stanford Cellular Immune Tolerance Program, Stanford Cancer Institute, Stanford Bio-X, Stanford-UCSF Weill Cancer Hub West, and the Parker Institute for Cancer Immunotherapy.

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Holly McCann, Ariel Stiber

Postdoctoral Faculty Sponsor

Meelad Amouzgar, Wael Gamal, Moritz Schaefer

Publications

PUBLICATIONS

- **Overcoming T cell tolerance to tumor self-antigens through catch-bond engineering.** *Science (New York, N.Y.)*

Chen, X., Mao, Z., Kolawole, E. M., Persechino, M., Jude, K. M., Ogishi, M., Mo, K. C., McLaughlin, J., Cheng, D., Xiang, X., Yang, X., Gee, C., Liu, et al

2026; 391 (6791): eadx3162

- **Predictive biomarkers of response to chimeric antigen receptor (CAR) T-cell therapy for pan-haematologic cancer.** *Nature biomedical engineering*

  Chen, G. M., Jain, A., Gering, D. T., Satulovsky, J., Datta, S., Lai, P., Karar, J., Gonzalez, V. E., Alexander, K., Chew, A., Jadlowsky, J. K., Ruella, M., Paruzzo, et al

  2026

- **Regulatory T cell therapies: from patient data to biological insights.** *Frontiers in immunology*

  Rodrigues, K. B., Eggenhuizen, P. J., Bacchetta, R., Good, Z.

  2025; 16: 1675114

- **CSF1R+ myeloid-monocytic cells drive CAR-T cell resistance in aggressive B cell lymphoma.** *Cancer cell*

  Stahl, D., Gödel, P., Balke-Want, H., Gholamipoorfard, R., Segbers, P., Tetenborg, L., Koker, M., Dörr, J., Gregor, L., Bachurski, D., Rose, F., Simon, A. G., Good, et al

  2025

- **Effects of an initial anti-CD19 CAR T-cell therapy on subsequent anti-CD22 CAR T-cell manufacturing and clinical outcomes in patients with r/r LBCL.** *Cancer discovery*

  Su, Y. J., Kramer, A. M., Hamilton, M. P., Agarwal, N., Srinagesh, H. K., Baird, J. H., Sahaf, B., Kuo, A., Ehlinger, Z. J., Desai, M. H., Rietberg, S. P., Tunuguntla, R., Patel, et al

  2025

- **Conditional normalizing flows for the design of T cell therapies**

  Kadaba, S. E., Alexander, E. K., Tsui, K. C., Roth, T. L., Good, Z.

  2025: FM4LS: 43

- **Patient-level prediction from single-cell data using attention-based multiple instance learning with regulatory priors**

  Tsui, K. C., Rodrigues, K. B., Zhan, X., Chen, Y., Mo, K. C., Mackall, C. L., Miklos, D. B., Gevaert, O., Good, Z.

  2025: AI4D3: 16

- **Risk of Second Tumors and T-Cell Lymphoma after CAR T-Cell Therapy.** *The New England journal of medicine*

  Hamilton, M. P., Sugio, T., Noordenbos, T., Shi, S., Bulterys, P. L., Liu, C. L., Kang, X., Olsen, M. N., Good, Z., Dahiya, S., Frank, M. J., Sahaf, B., Mackall, et al

  2024; 390 (22): 2047-2060

- **Engineered CD47 protects T cells for enhanced antitumour immunity.** *Nature*

  Yamada-Hunter, S. A., Theruvath, J., McIntosh, B. J., Freitas, K. A., Lin, F., Radosevich, M. T., Leruste, A., Dhingra, S., Martinez-Velez, N., Xu, P., Huang, J., Delaidelli, A., Desai, et al

  2024

- **CAR19 monitoring by peripheral blood immunophenotyping reveals histology-specific expansion and toxicity.** *Blood advances*

  Hamilton, M. P., Craig, E., Gentille Sanchez, C., Mina, A., Tamaresis, J., Kirmani, N., Ehlinger, Z., Syal, S., Good, Z., Sworder, B., Schroers-Martin, J., Lu, Y., Muffly, et al

  2024

- **Lessons for the Next Generation of Scientists from the Second Annual Arthur and Sandra Irving Cancer Immunology Symposium.** *Cancer immunology research*

  Alvarez-Breckenridge, C., Anderson, K. G., Correia, A. L., Demehri, S., Dinh, H. Q., Dixon, K. O., Dunn, G. P., Evgin, L., Goc, J., Good, Z., Hacohen, N., Han, P., Hanč, et al

  2023: OF1-OF7

- **Post-infusion CAR T-Reg cells identify patients resistant to CD19-CAR therapy** *NATURE MEDICINE*

  Good, Z., Spiegel, J. Y., Sahaf, B., Malipatlolla, M. B., Ehlinger, Z. J., Kurra, S., Desai, M. H., Reynolds, W. D., Lin, A., Vandris, P., Wu, F., Prabhu, S., Hamilton, et al

  2022

- **Advancing T cell-based cancer therapy with single-cell technologies.** *Nature medicine*

  Bucktrout, S. L., Banovich, N. E., Butterfield, L. H., Cimen-Bozkus, C., Giles, J. R., Good, Z., Goodman, D., Jonsson, V. D., Lareau, C., Marson, A., Maurer, D. M., Munson, P. V., Stubbington, et al

2022; 28 (9): 1761-1764

- **Identification of cell types in multiplexed in situ images by combining protein expression and spatial information using CELESTA.** *Nature methods*
  Zhang, W., Li, I., Reticker-Flynn, N. E., Good, Z., Chang, S., Samusik, N., Saumyaa, S., Li, Y., Zhou, X., Liang, R., Kong, C. S., Le, Q., Gentles, et al
  2022
- **GD2-CAR T cell therapy for H3K27M-mutated diffuse midline gliomas.** *Nature*
  Majzner, R. G., Ramakrishna, S., Yeom, K. W., Patel, S., Chinnasamy, H., Schultz, L. M., Richards, R. M., Jiang, L., Barsan, V., Mancusi, R., Geraghty, A. C., Good, Z., Mochizuki, et al
  2022
- **SINGLE CELL RNA SEQUENCING FROM THE CSF OF SUBJECTS WITH H3K27M+DIPG/DMG TREATED WITH GD2 CAR T-CELLULAR THERAPY**
  Mochizuki, A., Ramakrishna, S., Good, Z., Patel, S., Chinnasamy, H., Yeom, K., Schultz, L., Richards, R., Campen, C., Reschke, A., Mahdi, J., Toland, A., Baggot, et al
  OXFORD UNIV PRESS INC.2021: 39
- **Transient rest restores functionality in exhausted CAR-T cells through epigenetic remodeling.** *Science (New York, N.Y.)*
  Weber, E. W., Parker, K. R., Sotillo, E., Lynn, R. C., Anbunathan, H., Lattin, J., Good, Z., Belk, J. A., Daniel, B., Klysz, D., Malipatlolla, M., Xu, P., Bashti, et al
  2021; 372 (6537)
- **Molecular Imaging of Chimeric Antigen Receptor T Cells by ICOS-ImmunoPET.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Simonetta, F., Alam, I. S., Lohmeyer, J. K., Sahaf, B., Good, Z., Chen, W., Xiao, Z., Hirai, T., Scheller, L., Engels, P., Vermesh, O., Robinson, E., Haywood, et al
  2020
- **Reversal of epigenetic aging and immunosenescent trends in humans.** *Aging cell*
  Fahy, G. M., Brooke, R. T., Watson, J. P., Good, Z., Vasanawala, S. S., Maecker, H., Leipold, M. D., Lin, D. T., Kobor, M. S., Horvath, S.
  2019: e13028
- **Computational and Systems Immunology: A Student's Perspective.** *Trends in immunology*
  Good, Z., Glanville, J., Gee, M. H., Davis, M. M., Khatri, P.
  2019
- **Proliferation tracing with single-cell mass cytometry optimizes generation of stem cell memory-like T cells.** *Nature biotechnology*
  Good, Z., Borges, L., Vivanco Gonzalez, N., Sahaf, B., Samusik, N., Tibshirani, R., Nolan, G. P., Bendall, S. C.
  2019
- **c-Jun overexpression in CAR T cells induces exhaustion resistance.** *Nature*
  Lynn, R. C., Weber, E. W., Sotillo, E. n., Gennert, D. n., Xu, P. n., Good, Z. n., Anbunathan, H. n., Lattin, J. n., Jones, R. n., Tieu, V. n., Nagaraja, S. n., Granja, J. n., de Bourcy, et al
  2019
- **Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse.** *Nature medicine*
  Good, Z., Sarno, J., Jager, A., Samusik, N., Aghaeepour, N., Simonds, E. F., White, L., Lacayo, N. J., Fantl, W. J., Fazio, G., Gaipa, G., Biondi, A., Tibshirani, et al
  2018; 24 (4): 474–83
- **Automated mapping of phenotype space with single-cell data** *NATURE METHODS*
  Samusik, N., Good, Z., Spitzer, M. H., Davis, K. L., Nolan, G. P.
  2016; 13 (6): 493-?
- **Lymph node-independent liver metastasis in a model of metastatic colorectal cancer** *NATURE COMMUNICATIONS*
  Enquist, I. B., Good, Z., Jubb, A. M., Fuh, G., Wang, X., Junttila, M. R., Jackson, E. L., Leong, K. G.
  2014; 5
- **Biomarkers of Residual Disease, Disseminated Tumor Cells, and Metastases in the MMTV-PyMT Breast Cancer Model** *PLOS ONE*
  Franci, C., Zhou, J., Jiang, Z., Modrusan, Z., Good, Z., Jackson, E., Kouros-Mehr, H.

2013; 8 (3)

- **Heterotrimeric G(i)/G(o) proteins modulate endothelial TLR signaling independent of the MyD88-dependent pathway** *AMERICAN JOURNAL OF PHYSIOLOGY-HEART AND CIRCULATORY PHYSIOLOGY*
  Dauphinee, S. M., Voelcker, V., Tebaykina, Z., Wong, F., Karsan, A.
  2011; 301 (6): H2246-H2253

- **Understanding the Mechanism of Virus Removal by Q Sepharose Fast Flow Chromatography During the Purification of CHO-Cell Derived Biotherapeutics** *BIOTECHNOLOGY AND BIOENGINEERING*
  Strauss, D. M., Lute, S., Tebaykina, Z., Frey, D. D., Ho, C., Blank, G. S., Brorson, K., Chen, Q., Yang, B.
  2009; 104 (2): 371-380