Stanford

Liora Schultz

Clinical Assistant Professor, Pediatrics - Hematology & Oncology

NIH Biosketch available Online Curriculum Vitae available Online

CLINICAL OFFICES

- **Pediatric Oncology**

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- **Pediatric Hematology Oncology**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

I am currently postdoctoral research fellow pursuing immunotherapy research in the oncology department at Stanford University. My clinical training as a pediatric hematology oncology fellow at Memorial Sloan Kettering Cancer Center highlighted the desperate need for novel therapeutic options for a subtype of aggressive pediatric leukemia, Acute Myeloid Leukemia (AML). Despite our best standard of care for AML, long term survival rates range from 50-60% with an unacceptably high relapse rate of 40%. The urgent need for novel treatments inspired me to pursue a research project in adoptive immunotherapy, genetically modifying Tcells to express artificial T cell receptors, termed chimeric antigen receptors (CARs), that target AML specific antigens. In parallel to my clinical training, I constructed an AML specific CAR and demonstrated its ability to redirect T cell function mediating eradication of AML cells. As the field of CAR therapy rapidly advances, novel methods to optimize this therapeutic modality are imperative. To this end, supported by research demonstrating superior antitumor function of naïve derived effector T cells compared to central memory derived effector T cells, I am investigating whether preferential modification of naïve T cells to express CARs will generate a T cell subpopulation with increased efficacy. Consolidating my clinical and research experiences within highly academic institutes allows me to synthesize my pursuit of scientific rigor and commitment to the field of oncology, with a mission to achieve productive research and translatable results.

CLINICAL FOCUS

- Pediatric Hematology-Oncology

ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Pediatrics - Hematology & Oncology
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Faculty of Pure and Applied Science Scholarship, York University (2000, 2001, 2002)

- Ivan H. Smith Memorial Studentship Award, Cancer Care Ontario and Hospital for Sick Children (2005)
- Kurdyak International Health Elective Award, Center for International Health and University of Toronto (2006)
- Betty Lee Fellowship, New York Presbyterian Hospital, Weill Cornell (2010)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board Certification in General Pediatrics, American Board of Pediatrics (2010 - present)
- Member, American Society of Hematology (2012 - present)
- Member, American Society of Pediatric Hematology Oncology (2012 - present)
- Member, American Society of Clinical Oncology (2012 - present)
- Member, American Academy of Pediatrics (2007 - present)

PROFESSIONAL EDUCATION

- Board Certification: Pediatrics, American Board of Pediatrics (2010)
- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2015)
- Medical Education: University of Toronto (2007) Canada
- Internship: New York Presbyterian Hospital- Weill Cornell NY
- Residency: New York Presbyterian Hospital- Weill Cornell NY
- Fellowship: Memorial Sloan Kettering Cancer Center NY
- Fellow, Memorial Sloan-Kettering Cancer Center , Pediatric Hematology Oncology (2013)
- Resident, New York Presbyterian Hospital- Weill Cornell , Pediatrics (2010)

Research & Scholarship

CLINICAL TRIALS

- Phase I Dose Escalation Study of CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells in Children and Young Adults With Recurrent or Refractory B Cell Malignancies, Recruiting
- Phase I Study of GNKG168 in Acute Lymphoblastic Leukemia and Acute Myelogenous Leukemia, Not Recruiting

Publications

PUBLICATIONS

- **Use of cardiac radiation therapy as bridging therapy to CAR-T for relapsed pediatric B-cell acute lymphoblastic leukemia.** *Pediatric blood & cancer*
  Marquez, C. P., Montiel-Esparza, R., Hui, C., Schultz, L. M., Davis, K. L., Hoppe, R. T., Donaldson, S. S., Ramakrishna, S., Hiniker, S. M.
  2020: e28870
- **Use of Chimeric Antigen Receptor Modified T Cells With Extensive Leukemic Myocardial Involvement** *JACC: CARDIOONCOLOGY*
  Han, B., Montiel-Esparza, R., Chubb, H., Kache, S., Schultz, L. M., Davis, K. L., Ramakrishna, S., Su, L.
  2020; 2 (4): 666–70
- **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
- **HLA-haplotype loss after TCRalphabeta/CD19-depleted haploidentical HSCT.** *Bone marrow transplantation*
  Shyr, D. C., Zhang, B. M., Saini, G., Madani, N. D., Schultz, L. M., Patel, S., Kristovich, K., Fernandez-Vina, M., Bertaina, A.
  2020
- **Identification of dual positive CD19+/CD3+ T cells in a leukapheresis product undergoing CAR transduction: a case report.** *Journal for immunotherapy of cancer*

Schultz, L., Patel, S., Davis, K. L., Ramakrishna, S., Sahaf, B., Bhatia, N., Baggott, C., Erickson, C., Majzner, R. G., Oak, J., Bertaina, A., Mackall, C., Feldman, et al

2020; 8 (2)

- **Summary of COVID-19 clinical practice adjustments across select institutions** *PEDIATRIC BLOOD & CANCER*

  Schultz, L., Link, M. P., Rheingold, S., Hawkins, D. S., Dome, J. S., Wickiser, J., Kung, A. L., Henderson, T. O., Aftandilian, C.

  2020

- **Summary of COVID-19 clinical practice adjustments across select institutions.** *Pediatric blood & cancer*

  Schultz, L., Link, M. P., Rheingold, S., Hawkins, D. S., Dome, J. S., Wickiser, J., Kung, A. L., Henderson, T. O., Aftandilian, C.

  2020: e28411

- **CD22-Directed CAR T-Cell Therapy Induces Complete Remissions in CD19-Directed CAR-Refractory Large B-Cell Lymphoma.** *Blood*

  Baird, J. H., Frank, M. J., Craig, J. n., Patel, S. n., Spiegel, J. Y., Sahaf, B. n., Oak, J. S., Younes, S. n., Ozawa, M. n., Yang, E. n., Natkunam, Y. n., Tamaresis, J. S., Ehlinger, et al

  2020

- **Molecular Imaging of Chimeric Antigen Receptor T Cells by ICOS-ImmunoPET** *Clinical cancer research: an official journal of the American Association for Cancer Research*

  Alam*, I. S., Simonetta*, F.

  2020: 1058–68

- **Chimeric Antigen Receptor T Cell Therapy for Pediatric B-ALL: Narrowing the Gap Between Early and Long-Term Outcomes.** *Frontiers in immunology*

  Schultz, L.

  2020; 11: 1985

- **Mechanisms of and approaches to overcoming resistance to immunotherapy**

  Schultz, L., Gardner, R.

  AMER SOC HEMATOLOGY.2019: 226–32

- **Driving CAR T cell translation forward.** *Science translational medicine*

  Schultz, L., Mackall, C.

  2019; 11 (481)

- **Acute myeloid leukemia immunopeptidome reveals HLA presentation of mutated nucleophosmin.** *PloS one*

  Narayan, R. n., Olsson, N. n., Wagar, L. E., Medeiros, B. C., Meyer, E. n., Czerwinski, D. n., Khodadoust, M. S., Zhang, L. n., Schultz, L. n., Davis, M. M., Elias, J. E., Levy, R. n.

  2019; 14 (7): e0219547

- **Mechanisms of and approaches to overcoming resistance to immunotherapy.** *Hematology. American Society of Hematology. Education Program*

  Schultz, L. n., Gardner, R. n.

  2019; 2019 (1): 226–32

- **Organoid Modeling of the Tumor Immune Microenvironment.** *Cell*

  Neal, J. T., Li, X., Zhu, J., Giangarra, V., Grzeskowiak, C. L., Ju, J., Liu, I. H., Chiou, S., Salahudeen, A. A., Smith, A. R., Deutsch, B. C., Liao, L., Zemek, et al

  2018; 175 (7): 1972

- **1 Study of CD19/CD22 Bispecific Chimeric Antigen Receptor (CAR) Therapy in Children and Young Adults with B Cell Acute Lymphoblastic Leukemia (ALL)**

  Schultz, L. M., Davis, K. L., Baggott, C., Chaudry, C., Marcy, A., Mavroukakis, S., Sahaf, B., Kong, K. A., Muffly, L. S., Kim, S., Meyer, E. H., Fry, T. J., Qin, et al

  AMER SOC HEMATOLOGY.2018

- **T-cell immunopeptidomes reveal cell subtype surface markers derived from intracellular proteins.** *Proteomics*

  Olsson, N. n., Schultz, L. M., Zhang, L. n., Khodadoust, M. S., Narayan, R. n., Czerwinski, D. K., Levy, R. n., Elias, J. E.

  2018

- **New developments in immunotherapy for pediatric solid tumors.** *Current opinion in pediatrics*

  Schultz, L. M., Majzner, R. n., Davis, K. L., Mackall, C. n.

  2017

- **T-cell-based Immunotherapy: Adoptive Cell Transfer and Checkpoint Inhibition.** *Cancer immunology research*
  Houot, R., Schultz, L. M., Marabelle, A., Kohrt, H.
  2015; 3 (10): 1115-1122