Stanford

Corrine Nief

MD Student with Scholarly Concentration in Informatics & Data-Driven Medicine / Women's Health - Sexual & Gender Minority Health, expected graduation Spring 2026

Bio

EDUCATION AND CERTIFICATIONS

- Doctor of Philosophy, Duke University (2021)
- Bachelor of Science, Baylor University (2016)
- PhD, Duke University , Biomedical Engineering (2021)
- BS, Baylor University , General Engineering - Concentration in Biomedical Applications (2016)

PATENTS

- Corrine Nief. "United States Patent US10278806B2 Ureteral stent and method", Baylor University, Jan 1, 2017

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I'm interested in developing novel diagnostics and therapeutics for cancer patients using my background in computational biology and engineering. I'm specifically interested in women's cancers and the role of the tumor-immune microenvironment, metabolism, and hormonal interactions.

During my PhD, under Dr. Nimmi Ramanujam, I developed a low-cost tumor ablation method for breast and cervical cancer to increase access to care in low-resource settings. My method consisted of injecting cytotoxic ethanol along with a phase changing polymer directly in to tumors. I found that this method was able to deliver ethanol soluble small molecules (i.e. cyclophosphamide) directly into the tumor in a slow releasing depot and produce a systemic anti-tumor immunophenotype in triple-negative breast cancer models.

Currently I'm working with Dr. Brooke Howitt and Dr. Andrew Gentles, using machine learning to identify RNA signatures of recurrent endometrioid endometrial cancer with the hopes of identifying markers of aggressive disease.

Publications

PUBLICATIONS

- **Polarization of Endothelial and Epithelial Cell States Predicts Recurrence in Endometrial Endometrioid Carcinoma**
  Nief, C., Hammer, P., Wang, A., Gentles, A., Howitt, B.
  ELSEVIER SCIENCE INC.2023: S962-S963
- **Regression of Malignant Pleural Mesothelioma in Absence of Chemotherapy or Surgery: A Case Series.** *Clinical lung cancer*
  Nief, C. A., No, H. J., Louie, C. Y., Vitzthum, L., Das, M.
  2022

- **Ethanol Ablation Therapy Drives Immune-Mediated Antitumor Effects in Murine Breast Cancer Models.** *Cancers*
  Nief, C. A., Swartz, A. M., Chelales, E., Sheu, L. Y., Crouch, B. T., Ramanujam, N., Nair, S. K.
  2022; 14 (19)
- **Targeting Tumor Acidosis and Regulatory T Cells Unmasks Anti-Metastatic Potential of Local Tumor Ablation in Triple-Negative Breast Cancer.** *International journal of molecular sciences*
  Nief, C. A., Gonzales, A., Chelales, E., Agudogo, J. S., Crouch, B. T., Nair, S. K., Ramanujam, N.
  2022; 23 (15)
- **Radiologic-pathologic analysis of increased ethanol localization and ablative extent achieved by ethyl cellulose.** *Scientific reports*
  Chelales, E., Morhard, R., Nief, C., Crouch, B., Everitt, J. I., Sag, A. A., Ramanujam, N.
  2021; 11 (1): 20700
- **Optimizing ethyl cellulose-ethanol delivery towards enabling ablation of cervical dysplasia.** *Scientific reports*
  Mueller, J. L., Morhard, R., DeSoto, M., Chelales, E., Yang, J., Nief, C., Crouch, B., Everitt, J., Previs, R., Katz, D., Ramanujam, N.
  2021; 11 (1): 16869
- **Polymer-assisted intratumoral delivery of ethanol: Preclinical investigation of safety and efficacy in a murine breast cancer model.** *PloS one*
  Nief, C., Morhard, R., Chelales, E., Adrianzen Alvarez, D., Bourla Bs, I., Lam, C. T., Sag, A. A., Crouch, B. T., Mueller, J. L., Katz, D., Dewhirst, M. W., Everitt, J. I., Ramanujam, et al
  2021; 16 (1): e0234535
- **Understanding Factors Governing Distribution Volume of Ethyl Cellulose-Ethanol to Optimize Ablative Therapy in the Liver.** *IEEE transactions on bio-medical engineering*
  Morhard, R., Mueller, J. L., Tang, Q., Nief, C., Chelales, E., Lam, C. T., Alvarez, D. A., Rubinstein, M., Katz, D. F., Ramanujam, N.
  2020; 67 (8): 2337-2348
- **Development of enhanced ethanol ablation as an alternative to surgery in treatment of superficial solid tumors.** *Scientific reports*
  Morhard, R., Nief, C., Barrero Castedo, C., Hu, F., Madonna, M., Mueller, J. L., Dewhirst, M. W., Katz, D. F., Ramanujam, N.
  2017; 7 (1): 8750
- **Atomistic simulations indicate the c-subunit ring of the F1Fo ATP synthase is not the mitochondrial permeability transition pore.** *eLife*
  Zhou, W., Marinelli, F., Nief, C., Faraldo-Gómez, J. D.
  2017; 6