Stanford



Rory Vu Mather

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

Bio

BIO

I'm a future physician-scientist working at the intersection of statistics, machine learning, and neural signal processing. As part of the Harvard/MIT MD-PhD Program, I recently completed my PhD in Medical Engineering & Medical Physics (MEMP) through the Harvard-MIT Health Sciences and Technology (HST) Program.

Currently I'm a postdoctoral fellow in pediatric anesthesiology with Dr. Jennifer Rabbitts and Dr. Cornelius Groenewald at Stanford, where I apply causal inference methods to large-scale electronic health record data to estimate how intraoperative decisions shape long-term postoperative pain and opioid outcomes in children.

I'm also interested in medical education and administration, particularly supporting minority populations such as LGBTQIA+ and Vietnamese communities. Outside of science, I bring a background in graphic design, marketing, and brand development for technology companies, universities, and non-profits.

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- First Place - Stanford Graduate School of Business Healthcare Pitch Competition, Stanford Graduate School of Business (2026)
- Harvard Medical School Soma Weiss Award for Excellence in Research, Harvard Medical School (2026)
- Stanford Anesthesia Research Awards - Honorable Mention for Best Research Abstract, Stanford University Department of Anesthesiology, Perioperative and Pain Medicine (2026)
- NIH F30 MD-PhD Fellowship Grant, NIH: National Institute on Drug Abuse (NIDA) (2025 - 2026)
- SAE International Doctoral Engineering Scholarship, SAE (2025)
- Stanford Anesthesia Research Awards - Best Clinical Science Abstract, Stanford University Department of Anesthesiology, Perioperative and Pain Medicine (2025)
- Stanford SPARK Program Award in Excellence, Stanford SPARK Program (2025)
- Point Foundation Scholar, Point Foundation (2024, 2025)
- Stanford SPARK Program Scholar, Stanford SPARK Program (2024 - 2026)
- Harvard-MIT HST Neuroimaging Training Program NIH T32 Grant, NIH: National Institute of Biomedical Imaging and Bioengineering (NIBIB) (2023 - 2025)
- MIT Institute of Medical Engineering & Sciences (IMES) Prince Fellowship, MIT Institute of Medical Engineering & Sciences (IMES) (2022 - 2023)

- MIT HST Roger G. Mark Outstanding Service Award, Harvard/MIT Health Sciences and Technology (HST) Program (2021)
- Harvard-MIT MD-PhD NIH Medical Scientist Training Program (MSTP) Grant, National Institutes of Health (NIH): National Institute of General Medical Sciences (NIGMS) (2020 - 2030)
- LGBT Foundation Scholar, LGBT Foundation (2020 - 2024)
- Harrison D. Stalker Senior Thesis Award in Biology, Washington University in St. Louis (2019)
- Latin Honors: Summa Cum Laude, Washington University in St. Louis (2019)
- Scholar in Arts & Sciences, Washington University in St. Louis (2018)

PROFESSIONAL EDUCATION

- MD, Harvard/MIT Health Sciences and Technology (HST) Program
- PhD, Harvard/MIT Health Sciences and Technology (HST) Program , Biomedical Engineering (2026)
- MS, Washington University in St. Louis , Systems Science & Mathematics (2020)
- BA, Washington University in St. Louis , Neuroscience & Electrical Engineering (2019)

STANFORD ADVISORS

- Jennifer Rabbitts, Postdoctoral Faculty Sponsor
- Cornelius Groenewald, Postdoctoral Research Mentor

Research & Scholarship

LAB AFFILIATIONS

- Jennifer Rabbitts, Rabbitts Lab (6/1/2026)
- Cornelius Groenewald, Groenewald Lab (6/1/2026)
- Patrick Purdon, Purdon Lab (3/1/2021 - - 5/31/2026)

Publications

PUBLICATIONS

- **Rethinking the Integration of Artificial Intelligence Into Surgery: Centralized Risk Assessment for System-Level Impact.** *Annals of surgery open : perspectives of surgical history, education, and clinical approaches*
  Mather, R. V., Kunitake, H., Purdon, P. L.
  2026; 7 (2): e661
- **Association of peripheral nerve blocks with increased postoperative pain and opioid use in orthopaedic surgery: a single-centre retrospective cohort study.** *British journal of anaesthesia*
  Chung, A. R., Mather, R. V., Gutierrez, R., Liu, R., Leung, C. F., Zhang, M., Santa Cruz Mercado, L. A., Houle, T. T., Bittner, E. A., Purdon, P. L.
  2025
- **Substance Use and Pain Curriculum Innovation: Establishing a Student-Faculty Partnership for Curricular Change** *ACADEMIC MEDICINE*
  Mather, R., Jack, H. E., Warren, K. E., Comrie, C., Li, S., Liu, M., Lynn-Green, E., Moore, S., Oles, W., Saberi, S. A., Jarvie, E. J., Koka, A., McGuire, et al
  2025; 100 (7): 790-795
- **Intraoperative Frontal EEG Alpha Power is Associated with Post-Operative Mortality and Other Adverse Outcomes.** *Anesthesiology*
  Mather, R. V., Nipp, R. D., Balanza, G., Stone, T. A., Gutierrez, R., Raje, P., Higuchi, M., Liu, R., Santa Cruz Mercado, L. A., Bittner, E. A., Kunitake, H., Purdon, P. L.
  2024
- **Development and prospective validation of postoperative pain prediction from preoperative EHR data using attention-based set embeddings.** *NPJ digital medicine*
  Liu, R., Gutiérrez, R., Mather, R. V., Stone, T. A., Santa Cruz Mercado, L. A., Bharadwaj, K., Johnson, J., Das, P., Balanza, G., Uwanaka, E., Sydloski, J., Chen, A., Hagood, et al

2023; 6 (1): 209

- **Centering Patient Health Over Legal Status: A Student-Driven Cannabis Risk Stratification Framework for Undergraduate Medical Education** *SUBSTANCE USE & ADDICTION JOURNAL*
  Liu, J. J., Moore, S., Zhai, X., Mather, R., Oles, W., Cerda, I., McGuire, P., Connery, H. S.
  2026: 29767342261489469

- **A Prospective Study Characterizing Cognitive Function in Patients with Inflammatory Bowel Disease.** *Clinical and translational gastroenterology*
  Raje, P., Stone, T. A., Alkourabi, J., Mather, R. V., Liu, R., Higuchi, M., Nipp, R. D., Purdon, P. L., Kochar, B., Kunitake, H.
  2026

- **Perioperative Optimization of Frail Older Adults Undergoing Elective Colorectal Surgery** *JOURNAL OF THE AMERICAN GERIATRICS SOCIETY*
  Tang, R., Higuchi, M., Rudasill, S. E., Raje, P., Johnson, J. J., Mather, R. V., Lee, G. C., Russell, M., Pulluru, S., Cauley, C., Ricciardi, R., Kunitake, H.
  2026; 74 (1): 153-159

- **Intraoperative Electroencephalogram Alpha Power Associated with Mortality: Reply.** *Anesthesiology*
  Mather, R. V., Nipp, R. D., Balanza, G., Stone, T. A., Gutierrez, R., Raje, P., Higuchi, M., Liu, R., Mercado, L. A., Bittner, E. A., Kunitake, H., Purdon, P. L.
  2025; 143 (5): 1425-1427

- **Bridging Medicine and Society-A Call to Expand the Pipeline of Physician-Social Scientists** *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*
  Walensky, L. D., Mather, R., Meng, E. X.
  2025; 333 (17): 1489-1490

- **Chronic pain education: past, present, and future of psychedelics for the management of chronic pain** *PAIN MEDICINE*
  Robinson, C. L., Solanki, P. K., Snyder, S., Amir, A., Barreveld, A., Mather, R., Cerda, I. H., Motoc, M., Chopra, H., Yong, R., Castellanos, J., Furnish, T., Kaye, et al
  2025; 26 (4): 216-218

- **Electroencephalogram-Guided General Anesthesia in a Pediatric Patient With Alexander's Disease: A Case Report.** *A&A practice*
  Zhang, M., Mather, R. V., Chung, A. R., Leung, C. F., Ramamurthi, R. J., Purdon, P. L.
  2025; 19 (1): e01910

- **Dispelling the myth: comparable duration and impact of research training for MD-PhD and PhD graduates** *JCI INSIGHT*
  Mather, R., Rowell, T. R., Obuchowski, S., Walensky, L. D.
  2024; 9 (15)

- **Systemized approach to equipping medical students with naloxone: a student-driven initiative to combat the opioid crisis** *BMC MEDICAL EDUCATION*
  Saberi, S. A., Moore, S., Li, S., Mather, R., Daniels, M. B., Shahani, A., Barreveld, A., Griswold, T., Mcguire, P., Connery, H. S.
  2024; 24 (1): 241

- **Development and multicentre validation of the FLEX score: personalised preoperative surgical risk prediction using attention-based ICD-10 and Current Procedural Terminology set embeddings.** *British journal of anaesthesia*
  Liu, R., Stone, T. A., Raje, P., Mather, R. V., Santa Cruz Mercado, L. A., Bharadwaj, K., Johnson, J., Higuchi, M., Nipp, R. D., Kunitake, H., Purdon, P. L.
  2024

- **Paraburkholderia symbionts isolated from Dictyostelium discoideum induce bacterial carriage in other Dictyostelium species** *PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
  Mather, R., Larsen, T. J. J., Brock, D. A. A., Queller, D. C. C., Strassmann, J. E. E.
  2023; 290 (2003): 20230977

- **Where Are the Bacteria? Using Photos of Skin Samples to Test Hypotheses** *AMERICAN BIOLOGY TEACHER*
  Mather, R., Jefferson, C., Sherpa, R., Dzikunu, C., Brock, D., Queller, D., Strassmann, J.
  2022; 84 (6): 347-352