Stanford

Grant Higerd-Rusli MD, PhD

- Affiliate, Department Funds
- Resident in Pathology

Bio

BIO

I am a resident physician in Clinical Pathology (Laboratory Medicine) and post-doctoral researcher at Stanford University School of Medicine. My career goal is to apply translational research towards treatment and prevention of critically important yet neglected medical problems. Infectious diseases present some of the most important challenges we face as a society, including the injustice of ongoing epidemics in low- and middle-income country settings, the rise of antimicrobial resistance, and the continuing threat of novel pandemics. In response to the scale and urgency of these problems, I am directing my efforts toward development of innovative strategies to prevent, diagnose, and treat infectious diseases. I am particularly interested in pursuing potential interventions that could provide protection against broad classes of pathogens, such as Far-UVC disinfection technology, metagenomic pathogen surveillance, novel diagnostics, and broad-spectrum vaccines and antivirals.

CLINICAL FOCUS

- Residency
- Clinical Pathology
- Medical Microbiology

PROFESSIONAL EDUCATION

- MD, Yale University School of Medicine (2024)
- PhD, Yale University School of Medicine , Cellular and Molecular Physiology (2022)
- B.S., U.C.L.A. , Neuroscience (2015)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Pandemic prevention, diagnosis of emerging infectious diseases.

Publications

PUBLICATIONS

- **One confirmed and one potential human case of influenza A(H5N1) detected through an expanded subtyping protocol.** *ASM case reports*
  Higerd-Rusli, G. P., Karan, A., Hoffman, S. A., Morante, I. E., Huang, C., Sahoo, M. K., Hernandez, M. M., Pinsky, B. A.
  2026; 1 (2)
- **Sculpting excitable membranes: voltage-gated ion channel delivery and distribution.** *Nature reviews. Neuroscience*
  Tyagi, S., Higerd-Rusli, G. P., Akin, E. J., Waxman, S. G., Dib-Hajj, S. D.

2025

- **Expanding testing early in the H5N1 outbreak.** *Lancet (London, England)*
  Karan, A., Higerd-Rusli, G., Hernandez, M., Dhillon, R., Pinsky, B. A.
  2025; 405 (10481): 779-780

- **Targeted ubiquitination of NaV1.8 reduces sensory neuronal excitability.** *bioRxiv : the preprint server for biology*
  Tyagi, S., Ghovanloo, M., Alsaloum, M., Effraim, P., Higerd-Rusli, G. P., Dib-Hajj, F., Zhao, P., Liu, S., Waxman, S. G., Dib-Hajj, S. D.
  2025

- **Real-time imaging of axonal membrane protein life cycles** *NATURE PROTOCOLS*
  Tyagi, S., Higerd-Rusli, G. P., Akin, E. J., Baker, C. A., Liu, S., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2024; 19 (9): 2771-2802

- **Compartment-specific regulation of NaV1.7 in sensory neurons after acute exposure to TNF-a** *CELL REPORTS*
  Tyagi, S., Higerd-Rusli, G. P., Ghovanloo, M., Dib-Hajj, F., Zhao, P., Liu, S., Kim, D., Shim, J., Park, K., Waxman, S. G., Choi, J., Dib-Hajj, S. D.
  2024; 43 (2): 113685

- **Conserved but not critical: Trafficking and function of Na_V1.7 are independent of highly conserved polybasic motifs** *FRONTIERS IN MOLECULAR NEUROSCIENCE*
  Tyagi, S., Sarveswaran, N., Higerd-Rusli, G. P., Liu, S., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2023; 16: 1161028

- **Inflammation differentially controls transport of depolarizing Nav versus hyperpolarizing Kv channels to drive rat nociceptor activity** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Higerd-Rusli, G. P., Tyagi, S., Baker, C. A., Liu, S., Dib-Hajj, F. B., Dib-Hajj, S. D., Waxman, S. G.
  2023; 120 (11): e2215417120

- **Paclitaxel effects on axonal localization and vesicular trafficking of Na_V1.8** *FRONTIERS IN MOLECULAR NEUROSCIENCE*
  Baker, C. A., Tyagi, S., Higerd-Rusli, G. P., Liu, S., Zhao, P., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2023; 16: 1130123

- **The fates of internalized NaV1.7 channels in sensory neurons: Retrograde cotransport with other ion channels, axon-specific recycling, and degradation** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Higerd-Rusli, G. P., Tyagi, S., Liu, S., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2023; 299 (1): 102816

- **Depolarizing Na_v and Hyperpolarizing K_vChannels Are Co-Trafficked in Sensory Neurons** *JOURNAL OF NEUROSCIENCE*
  Higerd-Rusli, G. P., Alsaloum, M., Tyagi, S., Sarveswaran, N., Estacion, M., Akin, E. J., Dib-Hajj, F. B., Liu, S., Sosniak, D., Zhao, P., Dib-Hajj, S. D., Waxman, S. G.
  2022; 42 (24): 4794-4811

- **Inhibition of sodium conductance by cannabigerol contributes to a reduction of dorsal root ganglion neuron excitability** *BRITISH JOURNAL OF PHARMACOLOGY*
  Ghovanloo, M., Estacion, M., Higerd-Rusli, G. P., Zhao, P., Dib-Hajj, S., Waxman, S. G.
  2022; 179 (15): 4010-4030

- **Paclitaxel increases axonal localization and vesicular trafficking of Na_v1.7** *BRAIN*
  Akin, E. J., Alsaloum, M., Higerd, G. P., Liu, S., Zhao, P., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2021; 144: 1727-1737

- **Status of peripheral sodium channel blockers for non-addictive pain treatment** *NATURE REVIEWS NEUROLOGY*
  Alsaloum, M., Higerd, G. P., Effraim, P. R., Waxman, S. G.
  2020; 16 (12): 689-705

- **Building sensory axons: Delivery and distribution of Na_v1.7 channels and effects of inflammatory mediators** *SCIENCE ADVANCES*
  Akin, E. J., Higerd, G. P., Mis, M. A., Tanaka, B. S., Adi, T., Liu, S., Dib-Hajj, F. B., Waxman, S. G., Dib-Hajj, S. D.
  2019; 5 (10): eaax4755