Stanford

Prashant Hariharan

Postdoctoral Scholar, Neurosurgery

Bio

BIO

Prashant Hariharan is a biomedical engineer specializing in the design of "fit-for-purpose" in vitro models to study neurological disorders. He earned his B.E. from the University of Mumbai, an M.S. from the University of Texas at Arlington, an M.Eng. from Cornell University and a PhD from Wayne State University. His doctoral work with Dr. Carolyn A. Harris focused on developing an "organ-chip" model of the choroid plexus to study how cerebrospinal fluid secretion is affected by hydrocephalus. As a postdoctoral scholar in the Fame lab, Prashant is adding new layers of physiological complexity to his previous model to investigate how the body’s circadian clock regulates choroid plexus-driven cerebrospinal fluid production and composition. This work aspires to deliver model-driven insights that can be translated into CSF-centric therapies and ultimately advance the pursuit of precision medicine for brain health.

HONORS AND AWARDS

- Ralph H. Kummler Award for Distinguished Achievement in Graduate Student Research, Wayne State University, Detroit, Michigan (2023-24)
- Graduate Fellowship, International Foundation for Ethical Research (2021-23)
- Drs. Anthony and Joyce Danielski Kales Endowed Scholars Award in Biomedical Engineering, Wayne State University, Detroit, Michigan (2021-22)
- Innovator Award, Hydrocephalus Association (2022-23)
- Student Travel Award, Microphysiological Systems World Summit (2022)
- Provost's Poster Award, The University of Texas at Arlington (2014)

PROFESSIONAL EDUCATION

- PhD, Wayne State University, Department of Biomedical Engineering, Detroit , Biomedical Engineering (2025)
- M Eng, Cornell University, Nancy E. & Peter C. Meinig School of Biomedical Engineering, Ithaca , Biomedical Engineering (2016)
- MS, University of Texas at Arlington and UT Southwestern Medical Center Department of Bioengineering, Dallas , Bioengineering (2015)
- B Eng, University of Mumbai, Vidyalankar Institute of Technology, Mumbai, India , Biomedical Engineering (2013)

STANFORD ADVISORS

- Ryann Fame, Postdoctoral Faculty Sponsor

LINKS

- ResearchGate: https://www.researchgate.net/profile/Prashant-Hariharan
- Fame Lab Website: https://fame-lab.webflow.io/

Publications

PUBLICATIONS

- **Choroid Plexus-on-a-Chip: A Microfluidic Model to Study Cerebrospinal Fluid Secretion and Blood-Cerebrospinal Fluid Barrier Function** *ResearchGate Preprint*
  Hariharan , P., Hochstetler, A., Blazer-Yost, B., Harris, C.
  2025

- **Ventricular catheter tissue obstruction and shunt malfunction in 9 hydrocephalus etiologies.** *Journal of neurosurgery. Pediatrics*
  Garcia-Bonilla, M., Hariharan, P., Gluski, J., Ruiz-Cardozo, M. A., Otun, A., Morales, D. M., Marupudi, N. I., Whitehead, W. E., Jea, A., Rocque, B. G., McAllister, J. P., Limbrick, D. D., Harris, et al
  2024; 34 (1): 84-93

- **Exploration of clinical predictors of the degree of ventricular catheter obstruction: a multicenter retrospective study.** *Journal of neurosurgery. Pediatrics*
  Hariharan, P., Gluski, J., Sondheimer, J., Petroj, A., Jea, A., Whitehead, W. E., Del Bigio, M. R., Marupudi, N. I., McAllister, J. P., Limbrick, D. D., Rocque, B. G., Harris, C. A.
  2023; 32 (4): 447-454

- **A multicenter retrospective study of heterogeneous tissue aggregates obstructing ventricular catheters explanted from patients with hydrocephalus.** *Fluids and barriers of the CNS*
  Hariharan, P., Sondheimer, J., Petroj, A., Gluski, J., Jea, A., Whitehead, W. E., Sood, S., Ham, S. D., Rocque, B. G., Marupudi, N. I., McAllister, J. P., Limbrick, D., Del Bigio, et al
  2021; 18 (1): 33

- **Machine Learning Applications in the Neuro ICU: A Solution to Big Data Mayhem?** *Frontiers in neurology*
  Chaudhry, F., Hunt, R. J., Hariharan, P., Anand, S. K., Sanjay, S., Kjoller, E. E., Bartlett, C. M., Johnson, K. W., Levy, P. D., Noushmehr, H., Lee, I. Y.
  2020; 11: 554633

- **Characterization of a multicenter pediatric-hydrocephalus shunt biobank.** *Fluids and barriers of the CNS*
  Gluski, J., Zajciw, P., Hariharan, P., Morgan, A., Morales, D. M., Jea, A., Whitehead, W., Marupudi, N., Ham, S., Sood, S., McAllister, J. P., Limbrick, D. D., Harris, et al
  2020; 17 (1): 45

- **Biodegradable Nanoparticles Enhanced Adhesiveness of Mussel-Like Hydrogels at Tissue Interface.** *Advanced healthcare materials*
  Pandey, N., Hakamivala, A., Xu, C., Hariharan, P., Radionov, B., Huang, Z., Liao, J., Tang, L., Zimmern, P., Nguyen, K. T., Hong, Y.
  2018; 7 (7): e1701069

- **Cerebrospinal Fluid Disorders: Lifelong Implications** *Shunts and Shunt Malfunction*
  Hariharan , P., Harris , C. A.
  Springer Nature.2018