

GSBS Office of Career Development

Career Connections

A monthly newsletter highlighting
career & funding opportunities



Akhila Parthasarathy

4th Year, Cancer Biology Program

Fellowship: ChadTough Defeat DIPG Predoctoral Fellowship

Title: *“Harnessing Oncolytic Adenoviruses for Targeted Diffuse Midline Glioma Therapy”*

Opportunity Details: [ChadTough Application](#), Fellowship for predoctoral students pursuing research to better understand and treat Diffuse Midline Glioma/Diffuse Intrinsic Pontine Glioma.

Viruses for the Greater Good: Combating Brain Cancer with Viroimmunotherapy

When Akhila Parthasarathy joined the lab of Juan Fueyo, MD, she was interested in translating what we learn from patients in the clinic into research breakthroughs.

Parthasarathy studies rare and aggressive types of pediatric brain cancer: diffuse intrinsic pontine glioma (DIPG) and diffuse midline glioma (DMG). DIPG/DMG are tumors that are known as “immune deserts” lacking the body’s intrinsic tumor-killing cells. Without the

presence of tumor-killing cells these tumors are very difficult to treat. Parthasarathy's dissertation project aims to tackle these treatment-resistant cancers by introducing viruses to the equation. Using genetic engineering, she is developing viruses that work together with therapies that activate the body's immune system to specifically target cancer cells, known as viroimmunotherapy. The lab recently proved in a clinical trial that their virus, Delta-24-RGD, improved the survival of DIPG patients without significant side effects. One of the key mutations driving the formation and growth of DIPG/DMG affects histone proteins. Parthasarathy's dissertation project is investigating the connection between the effective activation of the immune system with the lab's tumor-targeting virus and the function of these mutant histones. She plans to introduce a second drug targeting these histones in combination with their virus in hopes of creating a new therapeutic strategy for DIPG/DMG patients.

The Perfect Fellowship Fit

Parthasarathy was excited to see that the ChadTough fellowship had a wide range of eligibility criteria. The fellowship welcomes both pre-doctoral and post-doctoral researchers, and funds both U.S. citizens and international students. She felt that this fellowship was the perfect fit for her research area. Once she determined that her research was an excellent fit for the fellowship, she worked with multiple members of her lab, including Dr. Fueyo, to ensure she created a strong application. She valued the feedback of her mentors and peers in developing her materials and navigating the application process. When it comes to a decision to apply, Parthasarathy emphasizes that you won't receive fellowships if you don't try: "If you're eligible, why not apply?"

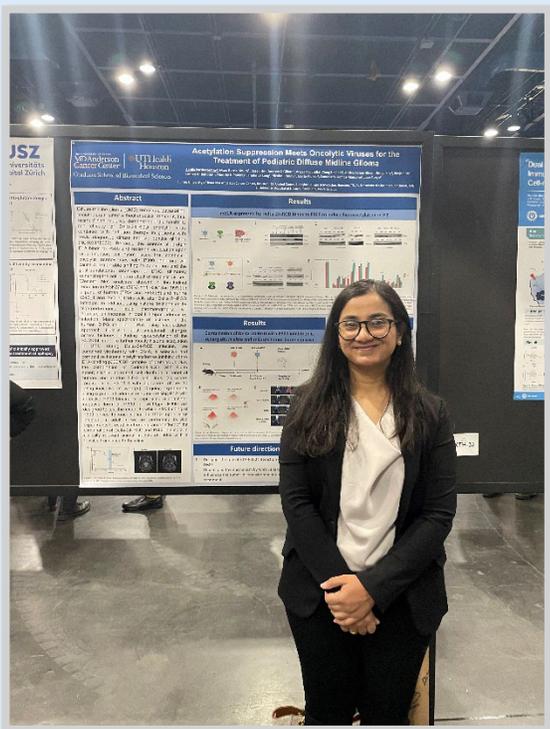
"A clinical fellow working in our lab was a recipient of the postdoctoral version of this fellowship [...] I thought, 'I'll give it a go.'"

When developing her fellowship project, Parthasarathy highlights feasibility as the key criteria she emphasized in her application. She credits the scientific writing course at the graduate school as one of the most important courses she has taken. The course helped her build a solid foundation and weed out unnecessary experiments or approaches. She also felt that the course helped her become a more effective writer.

“Don’t overcomplicate it — you don’t need to propose fancy experiments. Just feasible ones that would help best help answer your [research] question. The most feasible proposals are the ones that get through.”

Building A Professional Network Through Fellowships

Parthasarathy’s ultimate career goal is to continue as an academic researcher studying pediatric brain tumors. She is thrilled to have received a fellowship from the ChadTough Foundation as not only does it fund her research, the foundation also organizes workshops and meetings she can attend. She has the opportunity to network with researchers and clinicians from around the globe who are experts in DIPG/DMG. She gets to see the cutting edge of research and also meet patient families — a critical part of understanding the impact of her research. To her, it’s all about perspective: her work is making a difference in the lives of DIPG/DMG patients one breakthrough at a time.



Left: Parthasarathy with her poster at a recent conference.

Bottom: Parthasarathy, 2nd from right, 1st row, poses with her labmates.

