Parag Kaushik Bhatt, Ph.D.

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Hiring Committee,

975 North Warson Road

St. Louis, MO 63132

Dear Hiring Committee,

I am highly interested in the Data Science Trainer position recently advertised at the Donald Danforth Plant Science Center (DDPSC). This position will provide an outstanding opportunity for me to develop and implement training workshops for members of the DDPSC and broader St. Louis innovation community. I believe that my 5-year background as a mentor, entrepreneur, and investigative researcher make me an ideal candidate for this position. I have considerable experience in providing quality mentorship to individuals, across different educational and professional levels. This includes developing and teaching undergraduate lab courses grounded in applied research activities to complement the didactic lectures offered at Harris-Stowe State University (HSSU). I believe my skills will enhance the DDPSC's mission to provide cutting-edge professional development modalities with the goal of developing innovative projects at the DDPSC. In addition to my academic experience, I also work part-time as the Chief Scientific Advisor for Silo Wellness, a psychedelic-assisted therapy retreat startup. With Silo Wellness, I established positive and enduring interactions with talented individuals from different industries. I believe I have the skills to forge strong professional relationships within the DDPSC, as well as partnerships in both academia and private industry.

Though I am formally trained in cognitive neuroscience and pharmacology, I have recently explored pedagogies in STEM education with greater intensity since joining HSSU. My interactions with undergraduate students, either as an Adjunct Professor or a Postdoctoral Researcher, shifted my research focus towards developing new approaches to enhance my students' quality of education. My history of tutoring and mentoring my peers attracted me to teaching opportunities in the Department of Mathematics and Natural Sciences as an Adjunct Professor. My attraction towards providing quality mentorship to young adults to prepare them for their futures would lead me to pursue postdoctoral fellowships with Drs. Scott Horrell and Sandra Leal. In addition, I participated in STEM programs to bolster interest in these careers among underrepresented minority populations. Following my first semester at HSSU, I was recruited by Dr. Tommie Turner to assist her in a summer academy program designed to introduce high school students to the content disseminated in biology courses. I began investigating methods to create a more engaging environment that would

challenge and interest students to pursue careers in STEM. My postdoctoral research with Dr. Horrell at HSSU allowed me to develop a course-based undergraduate research experience (CURE) introducing students to pharmaco-genetic approaches to study receptor-ligand interactions using yeast as a model system. Dr. Horrell's expertise and passion for his student's education encouraged healthy discourse into improving the STEM experience at HSSU, a vision shared by the current administration.

During my postdoctoral fellowship in Dr. Leal's lab, I mentored a small cohort of undergraduate researchers. As an independent researcher, we used approaches in molecular genetics and developmental biology with the model organism *Drosophila melanogaster* to reveal the mechanisms involved in patterning photoreceptor neurons in the larval eye imaginal tissue. In addition, we elucidated larval physiological responses to acute and chronic cannabidiol administration using approaches in neuropharmacology. Our collaborative efforts have produced several manuscripts that are currently in preparation as well as our work being presented at multiple conferences, both locally and nationally. Additionally, I learned creative and adaptive approaches to mentorship. She and I conversed frequently about different methodologies for guiding young researchers, and she encouraged me to pursue a path in academia to help prepare the next generation for STEM careers.

More recently, I have been participating in a collaboration between the DDPSC and HSSU to design a CURE, providing HSSU students with experience in data science and image analysis. This course, designed with the assistance of senior faculty at HSSU (Drs. Ann Podleski and Sandra Leal), would use the DDPSC's own *PlantCV* package within the Python environment to enable individuals to gather information using digital image data generated by Drs. Malia Gehan and Noah Fahlgren. Engaging in this collaboration and developing this course with my colleagues has made me aware of the progress and continued journey I still have in being an effective mentor in addition to demonstrating to HSSU students the elegance of machine learning. This collaboration has further strengthened my resolve to pursue science education research with the goal of developing novel research programs to introduce students to cutting-edge STEM concepts as well as professional development opportunities to my colleagues.

I am confident in my ability to effectively communicate complex technical information in a format that is easily digestible to an individual, regardless of their background. I am very organized and thrive under pressure. I enjoy working as a part of a team but am also effective when working on my own projects. Thank you for considering my application for this position.

Sincerely,

Parag K. Bhatt, Ph.D.