Shreyas Mysore Suryanarayana

My formal education was in engineering and has provided me with a sound base in applied mathematics. My interest in neuroscience was triggered with my involvement in a rehabilitation project during my Master's degree in engineering wherein we investigated designs of an upper limb rehabilitation device intended for stroke patients. I wanted to understand the neural basis of motor control and decided to take up a Master's degree in neuroscience.

The MSc in Cognitive and Computational Neuroscience at the University of Sheffield was a fantastic introduction to various tenets of neuroscience and in my thesis, I investigated the role of the Globus pallidus externa (GPe) in a systems level model of the basal ganglia in rodents which implicate th structure in action-selection. The project produced interesting simulations and I was able to propose new functional architectures as well as identify a Parkinsonian oscillation generating circuit.

After my MSc, I was involved for a brief period of time in investigating neural control of saccadic eye movements at the Indian Institute of Science, following which I accepted the fellowship here at Karolinska Institutet.

While most of my background has been under the general banner of Engineering and Computational Neuroscience, the present project will provide me with training in several techniques in experimental neuroscience. We will investigate the roles of the individual subcomponents of the basal ganglia, using a simpler but evolutionarily conserved model system – the lamprey. We will also use modelling techniques at the cellular and systems level to investigate the role of the basal ganglia in locomotion.

I am looking forward to some exciting science and to the collaborations and networking within the Moving Beyond team.