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Tuesday, April 24, 2012

David Sheinberg, PhD  
Search Committee Chair  
Department of Neuroscience  
Brown University Providence, RI

RE: Pradeep Shenoy

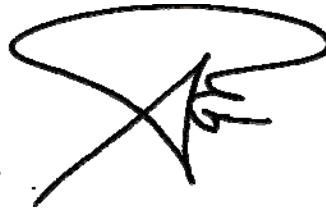
Dear Dr. Sheinberg

It is a pleasure for me to write a letter of support for Dr. Shenoy's application for the Tenure Track Position in Computational Neuroscience at Brown University. I have been working with Pradeep over the past two years on establishing a computational model of inhibitory failures in individuals at risk for stimulant dependence. We have been working with Angela Yu on a NIDA supported grant aimed at delineating the inhibitory failures of drug addicted individuals. To that end we have collected over 160 individuals who have been experimenting with stimulant drugs and who underwent functional magnetic resonance imaging during a Stop Signal Task. Pradeep has made some very exciting discoveries working on this data set. In particular, he found that individuals who use stimulants fail to make strategic adjustments as evidenced by changes in reaction time following stop signal trials. Moreover, he has begun to relate these differences to brain processing changes in the lateral inferior frontal gyrus. This could be the first evidence for a computational dysfunction in individuals before they develop problems with drugs. These insights are important because they can point us toward developing remedial strategies to reduced an individual's tendency to use drugs.

Throughout this process, Pradeep impressed me as a careful and thoughtful investigator, who contributed from the beginning insights that have helped me to re-conceptualize the computational processes underlying drug addiction. In particular, his recent publication on the Bayesian model of inhibition that clearly shows that the horse race model is a particular instantiation of a much broader category of computational processes is intriguing. Aside from his calm and insightful nature, he is a wonderful collaborator, has made

tremendous progress on linking the strategic adjustment dysfunctions to brain processes, and has suggested an several interesting follow up experiments.

Pradeep is clearly a new generation computational neuroscientist who has an avid interest in applying insights from his field to clinical applications (such as the field I am working in). I can imagine him working well within a larger team and make solid contributions. Moreover, he is developing his own program of research focused on strategic adjustments of cognitive control. I would be very sorry to see him leave UCSD but I understand that he is seeking a solid position to establish himself as an independent investigator. If you have further questions, please do not hesitate to contact me.

A handwritten signature in black ink, appearing to be 'MP Paulus', written over a large, loopy, oval-shaped flourish.

Martin P Paulus M.D.  
Professor  
Department of Psychiatry, UCSD  
Associate Chief of Psychiatry,  
San Diego Veterans Affairs Health Care System