An adventure with no major regrets, that’s how I would describe the past eight years that I have spent in the lab. of Mammalian Genetics. Shakespeare said, ‘All the world is a stage’ and rightly so this PhD has been a huge drama. I have had my moments of elation, frustration, confusion, and irritation, of being lost, of the fear of my dreams crashing, of being stuck in time, of losing behind. And then I have risen from the ashes like a phoenix! Throughout this mayhem, some special people have been by my side to watch my antics, my tantrums and then let it all go with a smile. I am forever grateful to them, for I know it is not easy being with me.

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I dedicate this thesis to my late grandfather, Suraj Bhan Sharma, to whom I had promised that I would become a doctor one day. His love and his teachings will always guide my way.