ACKNOWLEDGEMENTS

While it has taken a combination of hard work, perseverance and grit to get here, there are many who have supported me or made valuable contributions all along. My heartfelt gratitude to:-

Dr. Mrinalini Nair - my supervisor. I will always be grateful to you for accepting me into your lab even when you knew I was from a Marine Biology background. I’m glad you were able to perceive the passion I had for Molecular Biology. You taught me all the fundamentals of practical molecular biology from which I was able to build and develop my skills and knowledge in the subject. Your extensive knowledge and genuine enthusiasm for good science, not to mention your demand for quality and excellence, were truly inspirational and infectious. I also want to thank you for the occasional treats, and appreciation you gave me on the rare occasions it was due.

All the teachers of the Dept. of Microbiology and Biotechnology and Dr. Jayshree Pohnerkar and Prof. Dr. Naresh Kumar of the Dept. of Biochemistry for their support and well-wishes. I also would like to take this opportunity to thank all my teachers right from my play school to M.Sc who are also responsible for what I am today and whatever I have achieved in life.

Dr. Daniel Zeigler (BGSC) for generously providing *B. subtilis* 1A297, *B. subtilis* 1A447 and pHB201; Dr. Colin Harwood (Dept. of Microbiology and Immunology, University of Newcastle upon Tyne, UK) and Dr. Marion Hulett (Dept. of Biological Sciences, University of Illinois at Chicago, USA) for providing experimental tips on *pst* promoter studies and Dr. Roy Doi (Section of Molecular and Cellular Biology, University of California, USA) for gifting *B. subtilis* WB800. I sincerely thank them not only for the requested material, but also for supplying them without delay, thus helping me to save valuable time.

University Grants Commission for providing fellowship during the tenure of my research.

My lab mates-Mahima Pandor, Sandeep Patil, Shridhar Kinkar, Aparna Jagadale, Manikandan, Mrinal Sharma, Hemanta Adhikary, the dissertation students Roopali Adhikar and Lakshmi A. Thank you all for your friendship and for providing such a fun-filled and cheerful atmosphere in the lab that was a welcome respite from routine benchwork. I especially want to thank my dear friend Mahima for the memorable and wonderful times we had together and for helping me deal with research setbacks. I also want to thank my hostel mates, Dr. Remya Ranjith, Bratati Sen, Smitha S Kumar and my roommate Jisha Elias for all the good times we had.
Research scholars of the Dept. of Microbiology and Biotechnology (especially Priya, Ruchi, Anil, Harish, Santosh, Sandeep, Marpe, Geoby, Ketan, Vimal, Murali, Geetha, Kuldeep, Jagat, Arif), GRC (in particular Harsukh, Sanjay, Kaminee, Shakini, Bishun, Suhail, Chandra Prakash, Rajesh, Subhankar, Tulika) and Dept. of Biochemistry (Jisha and Maulik) for your helpful attitudes, entertaining my requests for chemicals or use of instruments and for good friendship. I will miss the get-togethers we had during Microbiology entrance exams and garbas.

The M.Sc students- for being such a good and interactive lot and for unfailingly attending my classes. I learnt a lot in the process of teaching you all- thank you for asking me doubts or for approaching me in times of need and making me feel useful. My thanks to Hiral, Dhiru, Pankaj, Mrunmay and Kit and the Post M.Sc. Diploma students Neha and Dinesh for bringing in youthful enthusiasm and laughter in the lab.

The non-teaching staff-My sincerest thanks to Nair bhai, Varghese bhai and Nitesh bhai for your administrative assistance and other help rendered. At times you even went out of your ways to help me and this is deeply acknowledged. My heartfelt thanks to Mrs Thomas for providing chemicals, glassware, plasticware etc., at all times. Words are not enough to thank you for the delicious food you prepared for us on almost a daily basis, and for showering me with motherly affection. Many thanks are due to Chimman bhai and Mukesh bhai for keeping our laboratory clean. Hats off to Chimman bhai for maintaining washed and autoclaved glasswares at all times thereby allowing us more time to concentrate on our benchwork, and making research much more comfortable.

My dad Prof. Narendranathan and mom Lissy for their endless and unconditional love, support and prayers, and for bringing me up the way they did. I hope I will be able to do similar justice to my children and instill in them the same values of genuine hard work, responsibility, humility and personal integrity. My dear doting younger brother Nisan for his never ending encouragement, support and infectious humour. Equally deserving of thanks are my parents-in-law, grandma and other family members for their love and prayers and most of all patience.

My husband Aravind because of whom this PhD is a reality. His tremendous patience, love and support are what kept me going. This PhD is as much his, as it is mine and I could never thank him enough for all that he has done for me.

I am forever grateful for the blessings of the Lord Almighty.

Soshina Nathan
"The desire to excel is exclusive of whether someone else appreciates it or not. Excellence is a drive from inside, not outside. Excel at a task today - not necessarily for someone else to notice, but for your own satisfaction."

Anonymous