

Acknowledgement



"None of us got where we are solely by pulling ourselves up by our bootstraps. We got here because somebody - a parent, a teacher, an Ivy League crony or a few nuns - bent down and helped us pick up our boots. ~Thurgood Marshal"

Indeed completion Ph. D is a result of efforts many people who have supported, encouraged and cared during the tenure of this work. These years have had their own share of euphoria of successful completion of some experiments and yet some equal share of despair some other stubborn troubles that just stayed on. Its a pleasant opportunity to express my gratitude to all those who amplified the joys of small yet significant successes and withered the pain of unpleasant experiences entoured this long yet enthralling journey.

I would like to express my gratitude for my mentor, Dr. G. Archana, for introducing me to this wonderful topic. It been an enriching experience not only scientifically but personally as well. Your high benchmarks always inspired me to strive hard to achieve the best within the system. I greatly appreciate her scientific writing skills that are almost like Midas's touch. I would like thank her for her unwavering support in me through the best and the worst of the moments that I spent in the department. Thanks madam for everything.

I also take this opportunity to thank Prof. G. Naresh Kumar (NK sir) for the critical analysis of my work. Your astute remarks were of great help in shaping and refining my work.

I am grateful to Prof. T. Bagchi (Present Head of Department) and the former HoDs, Prof. H.S. Chhatpar and Prof. Anjana Desai for providing excellent research facilities. I greatly appreciate Prof. Bagchi for his co-operation during my tenure as teaching assistant.

I would like to especially thank Prof. Anjana Desai for her affection and concerns for me. Her approachable nature often used to melt into hours of discussion on some serious and quite other frivolous topics Her "daring to go" approach towards life shall always be a source of inspiration for me.

Also I would like to thank Dr. Anuradha Nerurkar for her continued support and understanding throughout the tenure of my work.

I would also like to extend my gratitude to all my teachers at this department for inculcating the true sense of scientific learning. I thank Prof. B.B. Chatoor, Prof. A.K. Shah, Dr. P.Vyas, Dr. S.Ingle, Dr. M. Nair, Dr. B.Chandani, Dr. Manjerekar and Dr. Nandita Baxi for all their encouragement and blessings.

Falguni has been the loving and caring friend. Her effervescent nature and zest for life kept me afloat during my initial days of research. Her friendship has been truly valuable even today.

Murali has been the never-ending support for me. His useful suggestions and always helping nature cannot be just acknowledged. His always super cool attitude towards the most tense situations is quite comforting. Thanks for tying up all the loose ends and for your unconditional support despite I being annoying to you sometimes. Thanks!!!!

Aparna Madam the first person in Rf-2 all post-graduate students of the department know when they join the department for research. Your warm presence in the lab allows any student to settle in the lab with such great ease. Discussions with you regarding everything shall always be memorable. Thanks for being my teacher with things apart from science and research.

Priya, my gifting partner. You have been a wonderful person, your meticulous planning of the smallest possible things are such a great learning experience. My protein work would have been incomplete without your help. Thanks for your Monday idlis!!!!!!!

Thanks to all the past, present and future members of my lab, Rf-2. Geetha, Rasesh, Harish, for the good and supportive environment of the lab. Krushi, your playful banter in the lab are truly relaxing. Thanks are due to Darshan and Vimal for your support, open and uninhibited discussions in the lab scientific as well as current affairs. Our daily trips to circle as well as combined outings shall always be very memorable. The time spent with Murali, Darshan and Vimal during the reconstruction of the lab, right from the planning, getting instruments to the lab and our time spent in the lab when it was still not constructed is truly memorable. Not to forget extended member of our lab, Radhika, your ready to work for anything has been really infectious and also her warm nature was comforting during the grey days. Vihang, the latest member of our lab, your helpful nature is really great. I wish you all the best for all your future endeavours and a fruitful stay in the department.

Nandan, our quintessential difference of opinion has allowed me to explore things that I was mostly oblivious. Your abstract questions have been seriously intriguing. His helpful nature and shared passion for good science are greatly appreciated. Thanks for such a good time in the department. Anoop, "Google Beta", depth of your knowledge in diverse fields is amazing and for your playful company. Thanks for teaching me the advance features in Word to make thesis writing much simpler. Your help in the process of thesis writing is greatly valued. Jagat aka Jaggu has been a good company to be with and his passion to visit new places and enjoy life king size is truly magnificent. His help for molecular biology reagents required for my work was truly valuable.

The trio, Manish, Arif and Kuldeep, were the greatest management gurus in the department. You have been fun to be with especially "Cool" Deep. Arif the google alpha your silent, persistent efforts has been such an inspiration for those who have seen you work. Ketan, the co-incharge for PCRs and fine-chem. It was good to share the two most crucial responsibilities with you. Our annual ordering spree for the fine chemicals shall always be unforgettable. Subbu, your concern about everything pertaining about me are heart warming and sometimes very concerning. Your ability to balance everything is really commendable.

My best wishes are with Sanjukta, Sneha, Ruchi Bhate, Sumita, Jaymin, Hiral, Rakesh, Bhagyashree and all other new enterants of the department for their fruitful stay in the department.

I am also thankful to all the dissertation students, Madhu, Sharad, Suchitra, Ashok, Shivangi, Rucha and Alap, for creating such an enthusiastic work environment. Thanks all for sharing the same enthusiasm for Deinococcus as I shared. It was great fun being with you all especially Rucha and Madhu.

Every small help adds to great value in the time of need. I also acknowledge the timely help from Dr. Vikas Sharma and Dr. Divya Patel for several molecular biology problems, Dr. Aditi Buch, Dr. Hemendra and Prashant for their valuable help in enzymology. I also would like to thank all the members of DBL and Dr. Nair's lab for their timely help. Dr. Kavita Sharma (Baby Kavita!!) is also

acknowledged for the quality time spent and support towards the end of my thesis. My CSIR vows shared with Dr. Geoby George, Dr. Marpe Bam, Dr. Jyotika Rajawat, Dr. Hemendra Vekaria, Dr. Soshina Nathan and Mahima Pandor shall always be remembered with great nostalgia!

I am also grateful to Shirish bhai, for efficiently taking care of all the official work. His timely help towards the end were of great help and are greatly acknowledged. I also thank Khatri bhai for efficiently maintaining the CSIR-scholarship accounts.

I also thank Praveen bhai and Seema Madam for their assistance whenever required. A special thank to Manadvekar bhai for his timely help and troubleshooting of some basic problems in biochemistry. Thanks, Talati bhai for your timely help with the library books and chemical requirements. Also Thomas Ma'am is duly acknowledged for all her help, south Indian delicacies and Christmas cakes. Thanks Babu kaka for meticulously maintaining our lab.

The financial support received from the Council of Scientific and Industrial Research, Government of India is duly acknowledged.

I am greatly thankful to Prof. M. Daly, Prof. J. Battista, Prof. M. Lidstrom and Prof. I. Narumi for providing me different strains of *Deinococcus radiodurans* RJ. Their contribution has been immense in drawing fruitful conclusion of my work.

I appreciate Microsoft office for inventing (ctrlZ) command. I wish life comes with something like it too!!

Lastly, how could I possibly thank the Almighty enough, for the immense blessings that he has showered upon ME!!! No words can ever thank the endless support from my family especially my sister. I shall always remain indebted to my parents to support and encourage in my pursuit of happiness. Also I acknowledge my longest companion in the department, DRJ, for being such a great learning experience that possibly no other culture could have been.

Ruchi Chaturvedi