

## Acknowledgements

I have taken efforts in my thesis. However, it would not have been possible without the kind support and help of many individuals. I would like to extend my sincere thanks to all of them.

I would also like to express my sincere thanks to my guide **Dr. Mrinalini Nair** for supporting my Ph.D. candidature in Department of Microbiology and Biotechnology, The M. S. University of Baroda. I am thankful for her guidance and encouragement. Her appropriate suggestions and advice helped me in the improvement of presentation skill and my thesis work.

I would like to special thanks of gratitude to my mentor and my co-guide **Dr. Ashima Kushwaha Bhardwaj** for continuous support of my research work related to my Ph.D. I am extremely thankful to her for sharing her expertise, valuable guidance, sound advice and encouragement extended to me. Her enthusiasm and efforts to explain the topics made a strong impression on me.

I am grateful to **Prof. G Archana**, HOD, Department of Microbiology and Biotechnology, The M. S. University of Baroda for her support and suggestions for the completion of my Ph.D.

I am extremely thankful to Late **Prof. B.B. Chattoo** for his support, help and advice for my Ph.D candidature.

Besides my guide and co-guide, I would like to acknowledge my thesis committee members: **Prof. T. Bagchi**, **Prof. G Archana** and **Prof. R. Begum**, for their insightful comments, encouragement and for the hard question which incented me to widen my research from various perspectives.

I am grateful to **Prof. Anuradha Nerulkar**, **Prof. S. Ingle**, **Dr. Pranav Vyas**, **Dr. J. Manjrekar**, **Dr. D. Gajjar** and other faculties in Department of Microbiology and Biotechnology, The M. S. University of Baroda for their teaching, help and suggestions for my work.

I would like to thank **Dr. Manju Sharma**, **Dr. Amit Ghosh**, and late **Prof. Kailash Paliwal** for their sound advice, support and suggestions for my work. They are the inspiration for me.

I would like to acknowledge **Mr. Ashwani Puri** and **The Puri Foundation for Education** in India for providing infrastructure facilities, laboratory facilities and support for my research work.

I am grateful to **Dr. Amit Ghosh**, **Dr. S. K. Niyogi** and **Dr. T. Ramamurthy**, NICED, Kolkata, India, for providing the clinical isolates for my study and for their invaluable advice and support. I am thankful to **Prof. V. K. Chaudhary** and **Ms. Shilpi**, University of Delhi, Delhi for sequencing of the DNA fragments. I am thankful to **Dr. Asish K. Mukhopadhyay** and **Dr.**

**Goutam Chowdhury** for the software analysis of PFGE gels. I am also thankful to **Korean Agricultural Culture Collection** for providing the *E. coli* J53 strain.

I would like to express my gratitude to my colleagues **Dr. K. Vinothkumar, Mrs. Arati Patel, Dr. Rochika Singh, Dr. Priyabrata Mohanty, Mr. Braj Mohan Kutar, Mrs. Jyoti Tak, Mr. Shailesh Bhalara, Mrs. Aneri Shah and Dr. Dhaval Patel** for their support and help in day to day lab activities. I wish to convey my special thanks for the help provided by **Ms. Niralee Patel, Ms. Hasmat Buchad, Ms. Anuja Malgaonkar** and **Mr. Manikandan Kathirvel**. I would like to thanks to dissertation trainees **Ms. Nistha Bhatt, Ms. Dhvani Patel, Ms. Drasti Patel, Ms. Maitry Shah, Ms. Felicia Josheph** and **Ms. Rutvi Bhavsar** for their technical support for this work.

I appreciate the help of administrative and support staff of both IIAR and MSU. I would like to thank **Mr. Jayesh Vaidya, Mr. Alok Patel, Mr. Nitesh, Mr. Shirish and Mr. Milin** for their timely help and support.

I sincerely acknowledge the funding agencies, **Indian Council of Medical Research (ICMR)**, Govt. of India for providing financial assistance in the form of Senior Research Fellowship which supported me to perform my work comfortably.

Most importantly, this could not happen without support from my family. I would like to express profound gratitude to my parents **Mrs. Dayaben Kaneria** and **Mr. Jayantibhai Kaneria**, my husband **Mr. Darshan Rajpara** and to my daughter **Ms. Mahi** for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. I would like to express my gratitude to my brother **Hardik** and bhabhi **Kinjal** for consistent help and support. I would like to thanks my in-laws **Mr. Deepak Rajpara** and **Mrs. Anshuya Rajpara** for their support and allowed me to pursue Ph.D.

At last, I would like to thanks to whom I do not recollect at this moment.



**Neha Rajpara**