ACKNOWLEDGEMENTS

I am deeply indebted to my supervisor, Prof. Ravishankar Rai Vittal, Department of Studies in Microbiology, University of Mysore, Mysore, who is the best mentors in my life and have constantly provided me patient guidance, generous support and warm encouragement throughout the course of my research, without which I would have no chance to survive my Ph.D. study. Prof. Ravishankar Rai Vittal is extremely energetic, open-minded, and also very caring. He introduced me the fascinating world of bacterial quorum sensing.

I would like to express my sincere thank to doctoral committee and faculty members of Department of Studies in Microbiology Dr. N. Lakshmidevi, Associate Professor, Dr. Shubha Gopal, Associate Professor, Dr. M.Y. Sreenivasa, Assistant Professor, Dr. S. Sathish, Assistant Professor and Dr. S. Umesha, Associate Professor (DOS in Biotechnology) for their advice and constructive comments which provided a good basis for the present thesis.

My special thank to University of Mysore for the Senior Research Fellow (Indian Council of Medical Research, New Delhi) for providing financial support to complete my study.

My sincere thanks to Dr. Anuradha K, Professor, Department of Microbiology, K.R Hospital, Mysore, Medical College, Mysore for providing the clinical isolates of Pseudomonas aeruginosa.

My sincere thanks to Dr. Kalai Mathee, Professor, Florida International University, Miami for providing the wild strain of P. aeruginosa PAO1 and mutant strain of P. aeruginosa PAO1-JP2.
I acknowledge the timely technical supports and suggestions rendered by Prof. K.M. Lokanath Rai, DOS in Chemistry, University of Mysore, Mysore.

I must also thank my M.Sc., teachers Dr. N. Chandrakala, Assistant Professor, Department of Zoology, Kunthavai Naacchiyar Govt. Arts College for Women, Thanjavur; Dr. K. Bhuvaneswari, Assistant Professor, Department of Microbiology, Bharathidasan University College, Perambalur, Tiruchirapalli for their support and engorgement to complete my doctoral degree.

To my colleagues in the research lab, Dr. Pradeepa V Samaga, Dr. Rajesh Padumane Shastry, Dr. T. S. Avinash, Dr. Mohammed Aman, Dr. Jamuna Bai, Dr. L. Chitra Narayan, Mrs. Manasa Ravindra Walmiki, Miss. Kiana Alasvand Zarasvand, Mrs. Kangkana Banerjee, Mr. Arun Renganathan, Mr. Saketh Siddharth and Mrs. V.R. Ranjitha without your help it would have been difficult for me to complete my experiments.

I express my sincere thanks to all the research scholars of the department of studies in Microbiology especially Dr. D. Rakshith, Dr. H. Nagaraj and all other research scholars who have rendered help in one or the other way; and office staff members of the department for being helpful and co-operative to me during my Ph.D programme.

My sincere thank Prof. N. Ramachandran, Vice-Chancellor, Periyar Maniammai University, Thanjavur, Prof. D. Kumar, Dean and Head of the department of Nanotechnology, Dr. K. Rajandran, Associate Professor, Head of the Department of Biotechnology, Dr. S. Kumaran, Associate Professor, Biotechnology, Mr. P. Veeramurali M.E., Assistant Professor and Mr. S. Bhaskar M.E., Assistant Professor, Department of Electronics and Communication Engineering, Periyar Maniammai University, Periyar Nagar, Vallam, Thanjavur for their support.
My sincere thank **Dr. M.V. Sarathy**, Post Doctoral Fellow, Department of Molecular Biophysics Unit, Indian Institute of Science, Bangalore, **Mr. Ramachandra Murthy**, M.Tech., (Material Sciences) and **Dr. K. Phazhanichamy**, Post Doctoral Fellow, Division of Molecular Genetics and Cell Biology, Nanyang Technology University, Singapore for their support.

I wish to convey my deepest gratitude to my uncle **Mr. P. Ekambaram** and **Mr. Appurajan** for his bondless support, advise, care and kind help which cannot be forgotten.

I know that, I cannot afford to repay the debts of love, trust and patience, which my family members invested on me. I can only express my deep sense of my gratitude to my father **Mr. A. Pitchai Pillai** and my mother **Mrs. P. Padmini** who never shared their pains with me. They rendered me enormous support, encouragement and motivation that was given to me during the whole tenure of my research is unforgettable.

I wish heartfelt gratitude to my grandfathers **Mr. A. Petchimuthu**, grandmother **Mrs. P. Jayalakshmi**, Mrs. Ayyadurai Mohanambal, Mrs. Ramalingam Devaki, first sister **Mrs. Karikalan Sangeetha**, nepew **Jr. K.S. Sai Rupali**, second sister **Mrs. Shanmugam Sharmila** and nepew **Jr. S.S. Vetrivel** for their support and care which cannot be forgotten.

Finally I would like to express my profound gratitude to the University of Mysore for giving me an opportunity to carry out Ph.D study.

Place: Mysore

Date: 

Mr. P. SANKAR GANESH