ACKNOWLEDGEMENT

I would like to thank my guide Prof. P. Gautam, for being my guide and mentor.

I would also like to thank Dr. R.B. Narayanan, Director, CBT for allowing me to use the facility to perform my research. I would like to thank Dr. Geetha Muthukumaran, and Dr. V. Murugan, for being there whenever I needed them. I would like to thank Dr. S. Anishetty, for discussions with my problems. Thanks to all my lab people, especially Kaushik, Latha, Nandhini, Vinod (lab superman), Senthil, Aswin, Samy, Vinatha, Ms. Kothai, Priya, Priyadharshini, Gomathi, Pavan, Latha, Jeevs, Thangadurai and Tamizh.

I would like to thank Achoo, Krithu, Kota, and group, Stephen, Arjun, Janani, Premal, Subbu et al, Divya, Sandhya, Rosario, Jagdeesh and their whole batch, Archana, Jaishree, Guhapriya, Magi, Pavi, et al for making my stay a lively and enjoyable one. I would like to thank Kareem and Nitya, for being great friends and their work for GenoQuest.

I would like to thank my professors at MKU, Prof. S. Krishnaswamy, Prof. K. Veluthambi and Prof. K. Dharmalingam, for teaching me most of what I know. Thanks are due to my lecturers in college, Ms. Nagalakshmi and Ms. Nandini.

Last but not least I would like to thank my mother, brother, sister and Nitya, who have been a constant source of support for me.

The financial support provided by CSIR is acknowledged. I thank DBT, Govt. of India, for providing research infrastructure through the BTIS.

KARTHIKEYAN SIVARAMAN