

ACKNOWLEDGEMENT

I take this opportunity to express my deep gratitude to Dr. V.N. Bhoraskar, without whose able guidance and constant encouragement, this project would never have been seen the light of the day.

I am also grateful to Professor M.R. Bhiday, Deen, College Development Council and Professor A.S. Nigavekar, Head of the Physics Department, for taking keen interest in the work and helping me in various difficulties.

The nature of the experimental work carried out in the project, involved many people at different stages. I thank all of them for their best wishes and timely help. A special mention of three colleagues must be made here.

Firstly, I should give my sincere thanks to Dr. S.B. Ogale, my husband, who has been a potent source of encouragement and fountain head of lively inspiration, academically and otherwise, in my coveted endeavour.

Secondly, I should express deep gratitude to Dr. B.S. Raye, who is no more with us. He was an experimentalist with ^egrate talent and skills, and had solutions to almost all the involved problems. There is no way in which I can thank him enough.

Thirdly, I am also very grateful to Dr. S.V. Chaisas, for all that he has done for me. His help and advice was extremely crucial at all stages of the work.

I may further thank all the colleagues of ion implantation and nuclear physics groups in the Department, for having developed an enjoyable academic environment for my work. Thanks are due to Mr. Chumalkar, Dr. A. G. Joglekar, Dr. S. M. Chaudhari, Dr. S. P. Mhaskar, Mr. A. K. Badrinath, Mr. S. G. Khurd, Mr. A. S. Jadhav, Mr. V. P. Godbole, Mr. S. Kulkarni, Dr. V. K. Dhas, Miss S. Joshi, and Mrs. P. S. Lahoti for their help and to Dr. M. C. Takwale, Dr. S. M. Kanetkar, Dr. P. V. Panat and Dr. D. G. Kanhere for encouraging me from time to time.

I should also thank the skilled workers of the Workshop for the excellent fabrication work done by them, for my project.

My father-in-law, mother-in-law, and my parents, nursed and reared my children for more than five years and it would be most incongruous if I do not give them the entire credit for affording me all out encouragement and support, right from the beginning till the completion of the work on hand.

This list of honours also includes the authorities of the M. E. S. Garware College, the Head of the Physics Department Prof. B. S. Lagu, and my coworkers in the college.

Finally I am very much thankful to Mr. S. N. Kelkar, for an excellent typing of the thesis.