Acknowledgements

This is an opportunity for me to render my regards to all those who contributed in my Ph.D. research work by any means. It is obvious that first thanks would go to Prof. Arun K. Attri, my supervisor and mentor, who first of all familiarize me with the beautiful world of statistical modeling and computer programming. Also, he is the person who introduced me with the exciting field of Atmospheric Chemistry and Dynamics, especially Ozone and Aerosol Chemistry and Dynamics. During my Ph.D. research work when ever any failure or tension came in the way, his ever lasting patience and encouragement made the moment easy and infused me with enough energy to cope up with the situation.

I am grateful to Prof. V. Rajamani for his support and valuable suggestions that he provided me during the chemical analysis of aerosol samples in his laboratory and in National Facility for Geochemical Research; JNU, New Delhi.

I extend my appreciations to Dr. Sudesh Yadav for introducing me to various modern techniques used in the chemical analysis of Aerosols and making me acquainted with minute details of Aerosol Chemistry. His guidance and encouragement was available to me throughout my Ph.D. research work.

I am thankful to Prof. G. P. Malik, Prof. D. K. Banerjee, Prof. C. K. Varshney, Prof. J. Subba Rao, Prof. K. Dutta, Prof. S. Bhattacharya and Prof. V. K. Jain for their teachings in the field of Environmental Sciences.

My special thanks are extended to Dr. J. R. Ziemke and Dr. S. B. Andersen for providing me their valuable publications.

I acknowledge Goddard Space and Flight Centre, NASA; World Ozone and Ultra-Violet Radiation Data Centre, WMO; Earth and Space Research Laboratory, NOAA for providing Total Ozone Column and 30 hPa Equatorial Zonal Wind data-sets used in my Ph.D. research work.
I also acknowledge Council for Scientific and Industrial Research and University Grants Commission, India for the financial assistance in the form of Junior Research Fellowship and Senior Research Fellowship.

I am thankful to former Deans Prof. K. Dutta, Prof. V. K. Jain and present Dean of SES Prof. K. G. Saxena for allowing me to use needed school facilities.

I am grateful to Mr. S. D. S. Rawat for extending their help whenever needed.

Support and assistance of Mr. Nagendra Roy in laboratory affairs is truly admirable. I extend my appreciations to him.

My lab mates, Ragini, Dipu, Chuba, Kamna and Shweta always provided me a very friendly and easy going lab environment throughout my research work. Their support, encouragements and critiques played a very influential role in completing my Ph.D. research work. I am very thankful to all of them. Help extended by Shweta in the proof reading of this thesis is quite commendable.

I can not forget to appreciate my M.Sc./Ph.D. batch mates Prashant, Ravi, Bibhuti, Rupesh, Pankaj, Soumen, Bhaswati, Anoop and late Alakh for their help, support and for those golden moments, we shared during M.Sc. at SES, JNU. I am also thankful to my M.Phil./Ph.D. batch mates Ashwani, Vijay, Sachin, Vinay, Reena, Jaya, Chandrashekher, Mahesh, Dimpal, Sanjay, Manoj and S. N. Shastri for their friendly behavior and supportive nature. I am gratified to my then room mate Anand for providing me computer facility at room in early Ph.D. days.

At last, I can not express my deep sense of gratitude in words for my family members: Maa Papa, Badi Didi JiJa Ji, Chhoti Didi Jija Ji, Ashu and Aseem, without their round the clock moral boost up, encouragement, appreciation and having an ever lasting faith in me, it was impossible for me to complete this Ph.D. research work.

[Ankit Tandon]