ACKNOWLEDGEMENTS

‘My deepest and sincere gratitude for inspiring and guiding this humble being’

This PhD thesis is not just a product of the work conducted in the last 5 years of doctoral research, it is a manifestation of the dreams, sacrifices and contributions of a lot of people. Very rarely do we get the opportunity to express our gratitude to them whose contributions have been instrumental in shaping up our lives. I wish to thank everyone with whom I have shared experiences in life and who have contributed to my work and my life.

At the very onset, I would like to convey my sincerest sense of gratefulness towards my supervisor, Dr. Srikanta Kumar Rath for his constant support and encouragement in every initiative undertaken by me, both at scientific and personal levels. I thank him for providing me absolute thinking space for conceptualisation and planning without being rigid or imposing. He has always been a source of constant support, motivation, sound & wise advice and guidance for me whenever I found a stumbling block in my endeavours. I owe him lots of gratitude for showing me this way of research. He has been a role model for me as a scientist, a great mentor and above all, as an ideal human being. He could not even realize how much I have learned from him. I shall always remain indebted towards him. I would also like to extend my indebtedness to his entire family- Aparajita, Aditya and Madam, for their warmth, care, support and concern for me.

I am thankful to all the scientific faculty and staff of Central Drug Research Institute as a whole and the Toxicology Division in particular for providing a stimulating, cordial and comfortable environment to learn and grow. I am especially grateful to Dr. C. M. Gupta, former Director; Dr. S. Srivastava, former Head of the Department, Toxicology Division; Dr. Sharad Sharma, Dr. Neeraj Sinha, Dr. Saman Habib, Dr. P. S. R. Murthy, Dr. R. K. Singh, Dr. B. N. Singh, Dr. R. K. Tripathi, Mr. Z. A. Khan, Dr. Prem Prakash Yadav, Dr. Arun Kumar Trivedi, Dr. Sabyasachi Sanyal, Dr. Smrati Bhadaura, Dr. Sarika Singh, Dr. Poonam Singh, Mr. Shekhar Sarkar, Mr. R. K. Sarkar, Mr. Bachha Ram, Mr. Ayodhya Prasad, Mr. SriKrishna, Mr. Ram Kumar, CDRI vehicle Drivers (Mr. Chhoteylal, Mr. Shatrughan, Mr. Shakeel, Mr. Premkant) for accompanying and supporting me all through my endeavours.

I also wish to thank a lot of people from some other institutes who have been instrumental in providing huge help, support and exposure for my research and learning process. This special list includes Prof. Samir Brahmacari, Dr. Mitali Mukherji and Mr. Prashant Singh from the Institute of Genomics and Integrative Biology, New Delhi for their contribution towards SNP studies, Prof. P. P. Mazumder and Dr. Saurabh Ghosh, Indian Statistical Institute, Kolkata for providing invaluable insights into statistical genetics and computational approaches in SNP data analysis and Dr. A. B. Pant for his timely advise and encouragement.

My earnest gratitude to all the doctors and staff at the Lucknow Cancer Institute and Sanjay Gandhi Post Graduate Institute of Medical Sciences for providing all the help and assistance for cancer sample collection. Dr. Vivek Kumar Garg, Dr. Amit Agarwal, Dr. Mandira Sharma, Dr. Rashmi Chaturvedi, Rohit, Manish and Pradeep deserve most appreciation.

I am thankful to each and every person who has been gracious enough to donate samples for my research work.

I would like to express my sincerest sense of thankfulness to all my colleagues, seniors and juniors at CDRI and IITR for all the support, comraderie, entertainment, fun and care they have provided. My present and past labmates at the Genotoxicity laboratory (Dr. Ashok Singh, Dr. Sanjeev Noel, Dr. Neetu Singh, Mr. Shrawan Kumar Mishra, Ms. Neeti Sagar, Mr. Prabhat Singh, Mr. Bipin Chand Misra, Mr. Sarvendra Vikram Singh, Ms. Pratibha Mishra, Ms. Madhu Kashinathan, Ms. Surabhi Aggarwal, Mr. Ariz Khan, Ms. Andleeb Zaidi and Mr. Ajit Verma), Mr. Suresh L. Mehta, Dr. Gyanendra Singh, Dr. Rajeev Mishra, Dr. Rajeev Lochan, Mr. Parag Shah, Dr. Madhu Singh, Dr. Arvind, Mrs. Sudipti Gupta, Mr. Anirudh Singh, Mrs. Swapnil Sinha, Mr. Sachin Kumar, Dr. Diva Shukla, Mr. Rajkumar Verma, Mr. Prasuja Nakka, Ms. Shwoni Lahiri, Mr. Anchal Gussain, Mr. Naseeb Singh, Mr. Jitender Madan, Mr. Vikas Jain and Dr. Prasun Gupta needs special mention.

Additionally, I thank Shrawan, Bipin, Prabhat and Sarvendra for critically evaluating this thesis. They mirrored back my ideas so I heard them aloud, an important process for this writer to shape his thesis and future work. Their stimulating suggestions, extensive comments and vital inputs have helped me immensely in all the time of research and for writing of this thesis.

I am especially thankful to Ashok for his brotherly advises and tips that helped me a lot in staying at the right track and also for being attentive to my every beck and call.

I am highly grateful to all my teachers, right from Kindergarten (Nabarun Point), High School (Sainik School Purulia), College (Barasat Government College), University (University of Calcutta) till today, for generating and maintaining in me the interest for higher education and for providing the right kind of tutoring to shape my life and character. I am especially grateful to Mrs. Kavita Pal, Mr. S.
Upadhyaya, Dr. G.C. Sadhukhan, Dr. Kamal Paul, Prof. Anadi Kumar Kundu, Prof. Asish Kumar DuttaGupta and Dr. Ajay Kumar Mandal, whose ideals, concepts and personal guidance have a remarkable influence on my life and career.

I would love to individually thank all my friends, seniors, juniors and classmates from my childhood till today who have joined me in the discovery of what life is about and how to make the best of it. But, since the list may be too long and by the fear of leaving someone out, I will simply say thank you very much to you all from the bottom of my heart. My closest friends Mr. Kausar Alam, Mr. Abhra Ray, Mr. Arnab Samanta, Mr. Kaushik Mukherjee, Mr. Rakesh Kumar Sit, Mr. Shatanik Ghosh, Mr. Somasubhra Banerjee and their families have always been very special who have played significant roles in my life and have helped me immensely by providing their untiring help during my difficult moments. The gift of their company made my days more enjoyable and worth.

I wish to thank my entire extended family- my grand parents, my maternal and paternal relatives, my in-laws’ families and all those who have showered their love, care, affection and blessings upon me at every moment of life. My heartfelt thanks to all my brothers and sisters who have provided a loving environment for me. Rintuda, Mantudi, Tutul, Shalini, Titu, Di, Sonada and Abhi are a few of those special people.

I am especially grateful to my in-laws- Mrs. Mita Ghosh, Mr. Arun Kumar Ghosh and Bobo for their subtle support at crucial junctures.

I would like to appreciatively acknowledge the love, support and encouragement of my parents- Mrs. Minati Mitra and Mr. Asim Kumar Mitra, who bore me, taught me, loved me and have always believed in my vision and provided me the wings of freedom and opportunity to chase my dreams. Thank you does not seem sufficient but it is said with utmost appreciation and respect.

Rarely do we get the scope to express our deep sense of respect and thankfulness for the person most instrumental in keeping our lives in track, silently and assuringly making sacrifices to guide us through the difficult times and bearing the brunt of our despairs, anguish and occasional angers, too. I take this opportunity to express my deepest sense of love, appreciation and gratefulness towards my beloved wife, Taraswi, who has stood by me through the thick and thin of life and has been a source of courage, inspiration and support.

I sincerely acknowledge the Council of Scientific and Industrial Research (CSIR), India for all the financial support all through the work presented in this thesis, in the form of network projects NWP0034 (Validation of alternative animal models), CMM0018 (Animal models and animal substitute technologies) and CMM0016 (Predictive medicine using repeat and single nucleotide polymorphisms), Junior and Senior Research Fellowships.

Last but not by any means the least, I would like to gratefully acknowledge the contribution of my school, Sainik School Purulia, for instilling in me the virtues of strength, conviction and the zeal to slug it out during hard times, for forming part of my vision and for teaching me good things that really matter in life- principles that provide persistent inspiration in my journey of life.

20th November, 2008

Amit Kumar Mitra

20th November, 2008