

As the time draws near to bid adieu to the sprawling campus of Central Drug Research Institute (CDRI), I look in to the foggy past, and remember those moments which in one way or other, have touched my feelings and of course my soul. I cannot help but recollect about the people, who, during my stay, have enlightened me and gave me memories to be cherished life long. The following few lines are just a prolusion to express my feelings right from my heart.

With a deep sense of veneration and obligation, I take this opportunity to express my fervent regards to my mentor **Dr. Madhu Dikshit**, Head, Pharmacology division, CDRI for her keen interest, invariable encouragement, support and freedom to work throughout the present investigation. She not only provided precise directions but also her constant supervision to complete my work in time. The endless succession of agreement and congenial discussion with her always maintained a stimulating atmosphere, and also instilled in me a keen interest for research.

I wish to express my sincere gratitude to **Dr. T. K. Chakraborty**; Director, **Dr. C. M. Gupta**, **Dr. R. K. Tuli**; former Directors, CDRI as well as **Dr. Ram Raghubir**, **Dr. Gautam Palit**; former Heads, Pharmacology division, CDRI for providing me with all the required facilities inside & outside the institute during the entire tenure of my dissertation.

Words, in my lexicon, fail to elucidate my profound sense of veneration and indebtedness to **Dr. Manoj Kumar Barthwal**, for his inspiring guidance, outstanding cooperation, encouragement, calm endurance, abiding interest, indispensable suggestions, enthusiastic way to work and critical appreciation with stupendous ecstasy of profound complacency.

I also wish to extend my thanks to **Dr. M. P. Singh**, Scientist In-charge, Toxicogenomics and predictive Toxicology Division, Indian Institute of Toxicology Research (IITR), for his invaluable help during my work, especially regarding proteomics studies. I admire him for his critical suggestions, trouble shooting and great data analysis abilities.

I also owe a deep sense of gratitude towards **Dr. Anupam Verma** (SGPGI, Lucknow) for providing me with the blood samples for my study. I would also like to acknowledge **Dr. Ashutosh Kumar** (KGMU, Lucknow) for providing bone marrow samples for this study.

I would like to express my gratitude to **Dr. H. Krishnamurthy** (NCBS, Bangalore) and **Dr. Paresh Jain** (BD biosciences, India) for teaching the basics of cytometry which was vital for my research work.

I wish to thank **Dr. C. Nath, Dr. R. Sukhla, Dr. S. K. Rath, Dr D. P. Mishra, Mr. Amarnath, Dr. Prashant Sharma, Dr S. A. V. Raghvan, Dr. K. Mitra, Dr K. Hanif and Dr. Shubha Shukla** for their kind help and valuable suggestions whenever required.

The words are insufficient to express my feelings for the seniors for providing their pleasant company, co-operation and help. My special thanks go to **Dr. Satyananda Patel, Dr. William R. Surin, Dr. Rohit Saluja, Dr. Madhumita Chatterjee and Dr. Sachin Kumar**. Without their assistance this monumental task would never have achieved its described form. I will always cherish the co-operation and the moments spent with my colleagues **Rajeev, Ravi, Prem, Vishal, Manish, Ankita Misra, Vivek, Ankita Singh, Abhishek, Minakshi, Megha, Divya, Kanishka, Prarabha, Priyanka, Shivendra, Shruti, Brajesh, Shikha, Soumya, Sampath, Madhuri, Kirit, Niharika, Pavan and Shweta** for the entire period.

I am also thankful to my seniors and colleagues from pharmacology division – **Dr. Shawon, Dr. Anchal, Dr. Prasuja, Dr. Rahul, Dr. Ethika, Dr. Preeti, Dr. Naila, Dr. Ausaf, Dr. Gunjan, Dr. Abhishek, Rituraj, Neelendra, Raj, Vikas, Supriya, Pradeep, Manavi, Santosh, Pratibha, Neetu, Vaibhav, Shivika, Gaurav, Neetu, Seema, Subhash, Rajashekhar, Rubi, Jaspreet, Shivangi, Shamim** for providing an amiable atmosphere all around.

My exceptional thanks go to **Mr. C. P. Pandey** for his uninterrupted support and guidance regarding basics of instruments. I am also very much thankful to **Mr. M. S. Ansari, Mrs. Jharna Arun, Mrs. Kanta Bhutani, Dr. Surendra Singh, Mrs. M. Bhatnagar, Mrs. T. L. Seth, Mr. V. S. Nigam, Mr. G. P. Singh, Mrs. S. Sengupta, Mr. Ramesh, Mrs. Sheeba, Mrs. Sachi, Mr. S. Mohan, Mr. B. Bhusan, Mr. Varun Pathak, Mr. Anil Verma, Ms. Smriti, Mr. Pankaj, Ms. Deepmala and Ms. Divya** for their concern and cooperation. I am pleased to thank **Mr. Shahid** for providing us with clean glasswares and sipping hot tea - a panacea for all moods. I am also very much thankful to **Mr. Kishori Lal, Mr. Kishan, Mr. Pankaj and Mrs. Hari Joshi** for the support during my stay at CDRI.

Acknowledgements

A warm thanks to **Mr. A. L. Vishwakarma** and **Mrs. Madhu Chaturvedi** for flow cytometry experiments. I am also thankful to **Mr. Manish** for his help in analysis of samples under confocal microscopy.

Words would fail to express the depth of my feeling towards my parents. My Father **Mr. J. N. Sinha** is the person who put the fundament my learning character, showing me the joy of intellectual pursuit ever since I was a child. My Mother **Lt. (Mrs.) Savita Sinha**, is the one who sacrificed a lot for shaping up my career and giving me her love, care and support. Although she is not in this world, but remain always in my heart. I miss you Maa. My Sister and Brothers deserve special mention for their inseparable support and prayers. The affection, love, care and time to time guidance of my Didi (**Mrs. Aradhana Jyoti**), Jija ji (**Mr. Amit Kumar**), niece (**Ananya**), nephew (**Harsh**) and Brothers (**Mr. Anurag Jyoti** and his wife **Mrs. Richa Chandra**, **Mr. Anuranjan Jyoti**) will remain in my heart forever.

Love, calm, encouragement and enthusiasm are the fabric stones of the intellectual foundation. The adoring appreciation and love of my wife **Juhi** is splendid who always provided me strong motivation and energy to fulfil my dreams. Her critical suggestions and planning made my way easy for achieving success in a smooth, speedy & uninterrupted way. It is a pleasure to express my whole-hearted gratitude to my father-in-law **Mr. A. K. Saxena**, mother-in-law **Mrs. Amita Saxena** and brother-in-law **Mr. Akhil Saxena** for letting me take their daughter's hand in marriage, and warmly accepting me as a member of their family. Furthermore, I express a deep sense of gratitude and great reverence to them for their thoughtful support throughout this journey.

I would also like to acknowledge **Council for Scientific and Industrial Research** for providing me the fellowship for five years. Financial assistance of **Department of Biotechnology** project is also duly acknowledged.

Last but not the least; I am thankful to almighty **GOD** for the gift of life and endowing it with wonderful opportunities and beautiful people, who are always present with me & provides immense strength & patience.

Lucknow

August, 2011

Anupam Jyoti
(Anupam Jyoti)