

ACKNOWLEDGEMENTS

Though words are seldom sufficient to express gratitude and feelings, it somehow gives me an opportunity to acknowledge those who helped me during the course of my study.

*I wish to express my deep sense of appreciation and everlasting indebtedness to **Prof. Ram prasad**, Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), for being a father away from home. I do not have enough words to describe my gratitude towards him for teaching me how to not only be a better researcher and but also a better person. I promise to remember and use everything he taught me about catalysis, chemical reaction engineering and kinetics throughout my life.*

I would like to thanks Prof. A.S.K. Sinha (Head), Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University) for encouraging me and providing me all the facilities to carry out my research work.

I would also like to express my sincere thanks to RPEC members Prof. D. Mohan, Head, Department of Civil Engineering, Indian Institute of Technology (Banaras Hindu University) and Prof. P. Ahuja, Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University) for their stimulating help and criticism which incented me to widen my research from various perspectives. I would like to express my sincere gratitude to Dr. H.L. Pramanik, for his valuable inputs, suggestions and affectionate attitude.

I wish to express deep regards to all the teachers of the department Prof. K. K. Srivastava, Prof. A. K. Verma, Prof. B.N. Rai, Prof. P.K. Mishra, Prof. M.K. Mondal, Prof. R.S. Singh, Dr. V.L. Yadav, Dr. S.V. Singh, Dr. B. Verma, Dr. Pradeep Kumar and others for their kind support at all moments during the progress of my research.

With a deep sense of gratitude I express my sincere thanks to CIFC, IIT (BHU), Varanasi and Mr. Ashok Kumar, Department of metallurgy, IIT (BHU) for their help in carrying out SEM analysis of perovskite catalyst sample. I also extend my thanks to Mr. Arjun, Mr. S.K. Upadhaya, Mr. Umesh and Mr. Vinay for helping me in characterization of catalyst samples. I am grateful to Mr. Lal Bahadur Ram for the assistance extended by him time to time during the course of this work.

I am grateful to all the office staff of the department and the authorities of Indian Institute of Technology (BHU), Varanasi for their kind help during the period of my stay to complete the thesis work.

I am thankful to my fellow labmates Mr. Deepak, Mr. Subhashish, Mr. Ganesh, Mr. Shivam, Ms. Komal and Ms. Shalini for the thought-provoking discussions and for all the fun we have had in the last three years. I am extremely thankful to my friends Ms. Monika, Ms. Mousumi, Ms. Savita Chandel, Ms. Neetu Singh, Ms. Sarita Yadav, Ms. Vineeta Gautam, Ms. Meghna Kapur, Mr. C. Nayak and Mr. Raghu for their support, cooperation and sincere help in many ways.

My parents have been my best mentors, preparing me for life in its various aspects. There are no words to express my gratitude for all the selfless efforts they made. I would like to thank my sister Nirupma for her love, moral support, encouragement and motivation to get me through my Ph.D.

Finally, I bow with reverence and gratitude to thank the Almighty who has enriched me with such an excellent opportunity and infused the power in my mind to fulfill the work assigned to me.

Date.....

Place: Varanasi

(Anupama Mishra)