

ACKNOWLEDGEMENT

Life is a race and in today's fast moving world, accomplishing a goal without the support of each other is a difficult task. Today, at the acme of my thesis, with heartiness, I greatly remember many such individuals: as one flower makes no garland, this research would not have taken shape without their whole hearted encouragement and live involvement.

Foremost, I want to offer this endeavor to our *GOD almighty* for the wisdom he bestowed upon me, the strength, peace of my mind and good health in order to finish my research.

I am highly indebted to my **Supervisor “Prof. Vandana Srivastava”**, Department of chemistry, IIT (BHU), Varanasi, who inspires and encourage with her massive words and blessing, her unflinching support, constructive criticism, her truly scientific intuition and advice exceptionally inspired me and enriched my growth as a student. My involvement with her has triggered and nourishes my intellectual maturity that I will benefit for whole of my life.

With profoundest gratitude and great humility I extend my gratefulness to my **Co-Supervisor “Dr. Jeyakumar Kandasamy”**. He is a rare blend of scientific caliber and a person full of knowledge. He has been there all the time encouraging motivating and inspiring me.

I acknowledge with thanks the kind of patronage, loving inspiration and timely guidance, which I have received from my **RPEC members**, “*Dr. Jeyakumar Kandasamy*”, “*Dr. Sundaram Singh*”, (Internal subject expert) and “*Prof. Rajiv Prakash*” (External subject expert) School of material science and technology.

My sincere thanks to the former Head “*Prof. Rashmi Bala Rastogi*” Department of Chemistry, IIT (BHU), Varanasi, and the present head “*Prof. Dhanesh Tiwary*” as well as all the faculty members of Department of Chemistry, IIT (BHU) for their kind support and for providing necessary lab facilities and a congenial working atmosphere in the Department.

I gratefully acknowledge **central instrumentation facility centre (CIFC)**- IIT (BHU), Varanasi, for providing instrumental facilities through which I was able to perform my research smoothly and efficiently.

I also wish to thank all the **non-teaching staff** of the Department of Chemistry, Indian Institute of Technology (BHU) for their cooperation and timely help.

For me it is privilege to offer my overwhelming gratitude to my **senior Dr. Ankush Mishra** for his intellectual vigour and generous support whenever needed. His words have always fostered optimism and confidence in me.

My sincere thanks also goes to my **fellow lab mates Pratibha Verma, Jiyaul Haque, Mohammed Salman, Khushbu Rajput and Vishal Singh** for the stimulating discussions, for the times we were working together before deadline and for all the fun we have had during my research period.

This acknowledgement would not be complete without memorizing my **loving friends** for their invaluable help and co-operation during my stay in the campus.

I really appreciate their ideas, help and good humour.

I would like to express my eternal appreciation towards my **parents and family** who have always been there for me no matter where I am, for all the unconditional support and patience. Thank you for being so understanding and for never ending motivations I've been getting all this while.

With regards to numerous questions about my future academic endeavors from family and friends I shall answer in the words of *Sir Winston Churchill*, “Now, this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

I am indebted to **Indian Institute of Technology (BHU) Varanasi**, for providing financial support during my research work.

Lastly, I owe my utterest gratitude to all the **well-wishers** who have willingly helped me out with their abilities in one way or the other.

Swati Chauhan