Desire to do research is a divine calling for me. I follow a beckoning light slowly and falling many a times. Now that I have almost reached, I am humbled by the revelation and realise the real meaning of the Doctoral degree. The mysterious light is nothing but the halo of researchers who already dared to tread the unknown path and were guiding me without fail at every juncture. Looking back I can see, at every fall, there were many hands to support and pamper me and that too without belittling me. I am overwhelmed by the support rendered upon me. I would like to place on record names of some people who were instrumental to this work.

From the bottom of my heart I wish to thank each one of them and acknowledge the part they have played....

Blessed are those who get helpful guides. I am fortunate to be guided by two people with perfect blend of scientific temperament and attributes of excellent teachers. My guide, Dr. S Mridula is actually my mentor and even adorning the role of my late mother at times. Mridula Miss is known for her perfectionism and meticulous nature. My teacher, Prof. P Mohanan is my guide’s teacher too. He is a fairy who changes the lives of all his students and never too busy to listen to, help or guide each and every student including me and my guide. As I pen down my work, the only prayer I have is that ‘no deed of mine shall put their reputation at stake....’

I remember with gratitude....

My principal, Prof. G Madhu for his encouragement and timely support. Prof. K Vasudevan and Prof. C K Aanandan, my teachers at Department of Electronics, for their blessings and support. Prof. R P Rajagopalan Nair for his guidance in life.

Dr. Binu Paul, my doctoral committee member, my friend and colleague for fruitful discussions and constructive criticisms. My friends at the department, Dr. Deepa Sankar, Dr. Shahana T K, Dr. P Mythili, Dr. Rekha K James Dr. Babitha Rosalind Jose and Dr. R Gopika Kumari for their positive strokes and smiles. Deepa and Shahana for being the younger sisters I never had.
I am indebted and thankful to....

My fellow research scholars at School Of Engineering, Mrs. Bindu Devan, Mrs. Mini P R, Mr. Rajesh Mohan, Mrs. Jaya V L, Mrs. Sumi, Mr. Basil, Mr. Anjit and Mr. Philip Cherian for their whole hearted cooperation and timely help. Amicable relation and valuable help from Rajesh sir and Bindu needs special mention.

My fellow research scholars at Centre for Research in Electromagnetics and Antennas, Nijas, Dinesh, Deepak, Jayakrishnan, Roshna, Sajitha and Sumitha for their support. Nijas and Jayakrishnan for being always help at hand. Mr. Anil Kumar, for helping with fabrication.

I am grateful to....

Many people for gently coaxing me and giving brotherly support. Dr. Deepu V, Dr. Sarin P and Dr. Sujith Raman for the constant encouragement and above all, helping me to believe in myself.

Mr. Nelson K J my friend and classmate has a remarkable way of encouraging and boosting morale. Mr. Sunesh Bhasi, Mr. E S Jayachandran and Mr. Afsal Salam for being supportive through their silent presence.

I am thankful to...

Arun S my student transformed into eldest son for being there always and for patient hearing of all my fantasies on metamaterials. My student Arya for her supportive prayers.

I am obliged to...

My parents, my late mother for moulding me as I am; my father whose dream is fulfilled through this thesis. My brother for being a constant support. My in-laws for their patience and encouragement. Especially my late father-in-law and Kochappan for their encouragement.

Greatest gift of my life, Mr. V Jayakrishnan, my husband and soul mate for merging in every step I have taken.

My adorable and naughty sons, Kichu and Vishnu, whose demand for metamaterial dress for invisibility is a promise yet to be kept...

My conscience; the presence of almighty within, for guiding me through....

Anju Pradeep