
ACKNOWLEDGEMENT

Today, I am happy to see a transformed version of myself that got unraveled while walking through the path of the Ph.D. journey. I could develop my thinking abilities, figured out potentials, and god-gifted talents in me so that in the future I can make the best use of them. There were several moments when I enjoyed my happy days and faced challenges which I wouldn't have overcome if any of these pieces of the puzzle were missed during this journey.

First and foremost, I am grateful to my research supervisor Prof. G. Archana (Archana Ma'am) for accepting me as a Ph.D. student and carving me into a refined person. She assisted me to build independent and lateral thinking abilities. During the discussions, her scientific inquisitiveness and insights into the scientific community were a boon for me. I also honor her for giving me the freedom to work in other labs during the project so that I could hone my skills and achieve better outcomes through collaborative work. I could also express my individuality under her guidance, I feel happy and contented at the end of the day.

I also take this opportunity to thank Prof. G. Naresh Kumar and Prof. Appa Rao Podile for lending their hands to this project and showing up confidence in my work. Their wider knowledge and broader outlook in this field gave the desired shape for this project. Further, I deeply express my gratitude to Prof. Anuradha Nerurkar, for giving me immense support and pushed to pursue research. Her balanced and meticulous way of carrying out work is an inspiration to me. I want to thank former head Prof. T. Bagachi for considering me to pursue research in this department. I also give a huge thanks to Dr. Nandita Baxi, Prof. Sanjay Ingle, Prof. Devarshi Gajjar, Dr. Ratika Srivastava, Dr. M. Nair, and Dr. Pranav Vyas for helping me and being moral support whenever I needed it. One of the turning points in my career was when I received the opportunity to work under Dr. Simona Radutoiu, who gave me access to work in her lab for 5 months through EMBO short-term fellowship at Aarhus University, Denmark. Her enthusiasm for research and critical thinking skills influenced me. Also would like to thanks Prof. Jens Stouggard, a visionary scientist and utmost down-to-earth human being to ever I have known.

There were two post-docs of outside India laboratory Dr. Vinoy Ramachandran from the University of Oxford and Dr. Simon Kelly from Aarhus University who I want to

acknowledge personally. Dr. Vinoy helped me in writing a proposal for the fellowship and imbibed my mind with practical knowledge and skills. Dr. Simon, his kind nature helped me to cope up and learn new techniques in a different environment. I am thankful to you for your excellent support during my stay. I also thank Dr. Sravani Ankati from the University of Hyderabad and Dr. Chhaya Patole from C-CAMP, Bangalore for their extended support in carrying out collaborative work.

There were a group of seniors whose trail I tried to follow and inculcated a few of their habits during my Ph.D. Firstly, I am sincerely thankful to Dr. Priya Jishnu for her spectacular and compassionate support throughout my journey. Her balanced and graceful approach towards life I admire the most. You are a guiding light to me. Dr. Murali Sharaff and Dr. Ruchi Chaturvedi for their intellectual support and guided me through their wisdom whenever I needed it, Dr. Jagat Rathod, for his constructive critics in my work, and Dr. Anoop Markande for helping me to make a decision and learn the basics of microbiology.

During this journey, I was immensely lucky by meeting up with senior colleagues who turned up later into close friends. Sneha Garge, Shweta Talreja, Abhi Shah, Jitendra Gosai, Sumit Pandey, and Vihang Thite were pillars of strength to me in this journey. They were the ones with whom I get the intellectual ideas to solve problems faced in my experiments and stood beside me in my thick and thin. They encouraged me to step out of my comfort zone and guided me whenever I got stuck with the experiment of lab or life. I will cherish those moments spent with you and thankful to all of them for being a part of my life.

I thank all other researchers as well for all the kind-hearted and enthusiastic support especially to Jaswinder Kaur, Niralee Patel, Hasmat Buchad, Mansi Agrawal, Janki Patel, Ashtaad Vesuna, Juliya Thomas, Roshni Patel, Isha Ranadive, and Humaraya Khan. Akhil Thakker, Divya Purohit, Khyati, Anand Prananadi, Mihir Sarang, Shubhangi Pandey, Prachi Gandhi, and Anand Dave for their willingness to help me anytime. I also want to thank and give best wishes to the early-stage PhDs- Ajinkya, Krishna, Shivani, and Santosh.

This journey couldn't have been a successful one without the master dissertation students who were building blocks of this project. There were total 5 members of my team- Riddhi Puntambekar, Purvi Joshi, Mugdha Kulkarni, Tanmay Wairkar and Chetna. It was

through them I could identify the problems and understand the inside out of the project. Their analytical mindset, sincere and hardworking nature served me during my crucial times. I thank you all for your cooperation and for bearing with me.

I was also fortunate to have a bunch of friends outside the research group to whom I am grateful too. Ajit Nair, Fatema Attarwala, Rajisha, Riddhi Thakker, and Shruti Teredesai for being strong mental and emotional supporters during my tough times. Special thanks to Naman Dhoot for cheering me up when I stepped out of my zone and was available always as a long-distance friend.

Documentation is an integral part of any project to which, Mr. Shirish Nagarkar, a great leader and administrator of the department has been very friendly and compassionate towards me throughout this process. Also, I would like to thank Mandevkar Sir, Pravin Sir, Harsukh Sir, Aparna Madam, and Seema Madam for their warm support. I also thank Chiman Bhai, Pradeep Bhai, Nilesh Bhai, and Jayesh Bhai for their assistance.

I would like to acknowledge University Grants Commission for providing me UGC-BSR fellowship for five years. Also, to the DBT, India, and the Scandinavian Plant Physiology Society for giving me a grant for attending the conference. I am grateful to the Pulse Research Station (Vadodara) and Dr. S. K. Singh from Main Maize Research Station (Godhra) of Anand Agricultural University, Anand, India for providing *C. cajan* and *Z. mays* seeds. I also acknowledge the infrastructure support to this Department under the DST-FIST program of Gov. of India and the facility of Dr. Vikram Sarabhai Institute of Cell and Molecular Biology (Faculty of Science) at the M. S. University of Baroda.

Last but not least I am blessed to have Manvant Vora (Papa), Harsha Vora (Mom) as my parents, and I dedicate this piece of work to them. Their patience, tremendous support, and faith in me throughout this journey brought me to this stage of my life. I also thank my brother Bhavin Vora, grandparents, and cousins for their love and blessings. I kneeled to the almighty whose grace in times opened the toughest doors easily. Thank you, god, for walking with me on this path. You made this journey an incredible and memorable one.

- Siddhi Vora
