

Acknowledgements

By the grace of **God**, this work was carried out during the years 2013-2018 at the Department of Microbiology, Panjab University, Chandigarh. After Almighty, it is a pleasure to thank those who made this thesis possible.

I owe my deepest gratitude and honourable submission to my supervisor, **Dr. Deepak Kumar Rahi**, Assistant professor, Department of Microbiology, for creating the scope of work for me as a research scholar within his department. Without his continuous optimism concerning this work, enthusiasm, encouragement and support, this study would not have been possible. His knowledge and guidance into the world of exopolysaccharides have been essential during this study. Besides his guidance, I will always appreciate his quality of 'politeness, calmness and understanding,' that he showed throughout my working years in his laboratory.

I also express my warmest gratitude to my Co-supervisor, **Prof. Vijay Prabha**, Professor, Department of Microbiology. I am thankful for her prestigious suggestions during my study. She has made available her support in a number of ways. Her experience was a lightening factor for my thesis. Her vision of seeing things with broader perspectives was very knowledgeable and appreciated for my work.

I am deeply grateful to **Prof. S.K. Soni**, Chairperson, Department of Microbiology, Panjab University, Chandigarh, for providing me all the necessary facilities.

I express my thanks to **Prof. Vijay prabha** and **Prof. Praveen Rishi**, Former-Chairpersons, Department of Microbiology, Panjab University, Chandigarh, for providing assistance, cooperation, support and all necessary facilities during the tenure of my work.

I extend my heartiest thanks to all **other teachers** of my department for their valuable guidance, kind co-operation and moral support throughout the present work.

I would like to deeply acknowledge **Basic Scientific Research (BSR)** Fellowship for Meritorious Students scheme of University Grants Commission (UGC) for assisting me with financial support for my study.

I am also thankful to all the staff members and lab attendants of our department, **Miss Vijay Lakshmi, Mr. Baljinder, Mrs. Rupinder Kaur, Mr. Ravi, Mr. Vijay, Mr. Ramesh Yadav, Mr. MP Singh, Mr. Banvari, Mr. Kashmir, Mr. Ajay, Mr. Bhupinder, Mr. Mohan, Mr. Pradeep** and **Mr. Ramesh Jain**, who treated me with organizational respect and also helped me through few of the situations during my time of work.

My all lab-mates deserve special mention for making my Ph.D. an agreeable experience. Many thanks to my former mates, **Kanchan** ma'am and **Vishal Tiwari**, with whom I started this journey, for their kind support, help, guidance and making me comfortable in lab in initial days. I also appreciate my present mates, **Maninderjeet, Harpreet** and **Ekta**, for becoming a helping hand in all the responsibilities, encouraging me and maintaining a blissful environment during my tenure.

The journey in the lab was made more memorable by very cheerful juniors, **Bhrigu, Premlata, Urvashi, Shabnam, Mukul, Sukhwinder, Aruna, Madhurika, Richa, Arshdeep, Japleen, Deepanjali** and **Sanjay**.

My heartfelt thanks to my seniors, **Neha Sabharwal**, for giving me beautiful memories to cherish throughout lifetime, **Deepali Thapar**, for her assistance in some of the objectives of my work, and **Angela Verma**, for her motivational support.

Special thanks to my very noteworthy and trusted individuals, **Priyanka** and **Lavneet**, who really give all their support and don't ask anything in exchange. Thanks to my close buddies **Akanksha, Priya, Aaina, Isha, Vishal1, Vishal2, Sahil, Anupama, Vimal** and **Kriti** for their intellectual encouragement and valuable time.

My completion of thesis would not have been accomplished without the support of my friends and colleagues specially **Aditya, Usha, Aditi, Parul, Sunil, Deepak, Vivek, Steffy** and **Shashi**. They all have been an important part of this journey. I express my heartiest gratitude and cordial thanks to each one of them for their precious cooperation, without which it wouldn't have been possible for me to smoothly complete my thesis.

It is an honour for me to thank my beloved parents, **Mr. Kartar Singh Malik** and **Mrs. Shakuntla Malik**. Papa has been my inspiration for honesty, hardwork and discipline. Mom has been the perfect epitome of love and sacrifice. I owe them till my last breath. I am thankful for their great support, patience and never ending care. They have been my pillars of strength. The countless times they have helped me throughout my journey will help me gain something great in the near future.

This acknowledgment won't be complete without mentioning my other halves, my brothers. I am immensely thankful to my elder brother, **Sumit Malik**, for being a precious part of my childhood diaries. Though I could merely spend 12 years with him as per God's will, but the way he took care of me and guarded me is unforgettable in this lifetime. His memories have helped me smile in tough times. I believe he is continuously bestowing his love like sunshine from the sky. 'You' are missed every day. I am also thankful to my younger brother, **Yashwin Malik**, who is as special as an angel. Because of him, I learn how to cope up with a challenging world every day. He is truly inspirational and the reason of my gaining strength and patience. His unconditional love makes us smile every day. Because of him, I have learnt being more responsible and dedicated.

The acknowledgment section cannot be accomplished without mentioning the endless efforts and support of dearest **Anil Sethi**. His encouragement when the times got rough is very much appreciated. I feel totally blessed seeing him as my pillar of strength. His presence has been a source of continuous positivity throughout. He makes me believe in myself more than I do. I thank him for giving me the courage for dreaming high and pushing me throughout to turn them patiently into reality.

Special love to my nieces, **Niku** and **Pratibha**, and nephews, **Tushar**, **Yogesh** and **Himanshu**, for their emotional support, love and care.

Deepika Malik