

## **Acknowledgments**

The author wishes to express his heartfelt appreciation to his co-advisors Dr. Arthur C Taylor, III and Dr. Richard W. Barnwell. The ethics, technical competence, and professionalism they demonstrate provides me with a standard that I will strive to achieve. Words can not express the respect that I have for these men and the pleasure I have had working with them.

I sincerely thank Dr. Wing F. Ng, Dr. Elaine P. Scott, and Dr. Robert L. West for serving on my dissertation committee and for their valuable comments. I would like to express my gratitude to Dr. Gene J.-W Hou, Dr. Perry A. Newman, and Dr. Gregory W. Burgreen for their technical guidance and Christian fellowship throughout this research. I look forward to working with them in the future. My appreciation is also extended to the entire Multidisciplinary Optimization Branch and to Dr. W. Kyle Anderson for the numerous suggestions and discussions. In addition, via the NASA Graduate Student Researchers Program (GSRP), I have had the unique opportunity to perform this research at the NASA Langley Research Center. This has provided a learning experience second to none and an environment conducive to research.

My father, my role model, Dr. James C. Newman, Jr. and my mother have been an inexhaustible source of encouragement and support throughout my entire life and I would not be where I'm at today without them. I would also like to express my appreciation to Amy Swanson-Newman, and her parents, for their support and genuine interest in my life and career. My family, extended family, and friends have always been a positive influence in my life, there when I need them, and for this I am eternally grateful.

Even though this may be a first, I want to thank my dog, Chester, for his unwavering loyalty. During all the long hours he patiently laid by my side, with his ball, waiting to play when I had the time. Thanks *big boy*.