



Sir Ronald Alymer Fisher (1890 – 1962), was an English statistician, evolutionary biologist, eugenicist and geneticist. Fisher is well known for his contributions to statistics by creating Fisher's exact test and Fisher's equation. His contributions to experimental design, analysis of variance, and likelihood based methods have led some to call him "The father of Statistics".

Acknowledgement

ACKNOWLEDGEMENT

Apart from the blessings of **Almighty God**, any successful work will have as its background the moral support of an inspiration. This thesis was successfully achieved through the cooperation of many individuals. First of all, I would express my sincere gratitude and deep appreciation of the following individuals and organizations for their generous help with this thesis.

I express my whole-hearted thanks to the **Honorable Vice-Chancellor Prof. Dr. K. Muthuchelian, Ph.D., D.Sc, FNABS, FIEF (Canada), Respected Registrar (i/c), Prof. Dr. P. Mathaiyan and Respected Controller of Examinations Dr. P. Prince Dhanaraj**, Periyar University, Salem for providing the chance to do doctoral research in this University.

I wish to express my deepest gratitude to my respectful research supervisor **Dr. T. Palvannan, M.Sc., Ph.D.**, Assistant Professor and Head i/c, Department of Biochemistry, Periyar University, Salem. With his enthusiasm, love in Biochemistry inspired me and his encouragement and confidence motivated me to perform the best in daily work. Without whom I would never have done this work. I thank him for providing me with a challenging and an intriguing project to develop my own investigative and analytical skills.

ACKNOWLEDGEMENT

I gratefully thank **Dr. K. M. Ponnuvel Ph.D.**, Scientist – C, SERIBIOTECH RESEARCH LABORATORY, Central Silk Board, Govt. of India for his valuable suggestions and **Dr. S. Venkatesh, Ph.D**, Nutek, Inc., MI, USA, for providing the article support for my research. I thank **Mr. Ramesh, M.Sc., M.Phil**, Lab technician, CHRISTIAN MEDICAL COLLEGE, Vellore for clinical analysis work for my thesis work. I take this opportunity to thank **Mr. Vincent**, Lab technician, St. JOSEPH COLLEGE, Trichy to carried out biosensor work in his laboratory. I wish to express my special thanks to **Dr. Nirupama**, Manager and **Ms. Ashik dechema**, Business development officer, of SEMLER RESEARCH CENTRE, Bangalore, for performing stability analysis work for my thesis.

My heartfelt thanks to **Dr. Chenraj Jain**, Chairman Jain group on Institutions Bangalore, for continuous encouragement and I wish to express my cheerful gratitude to my colleague of JAIN UNIVERSITY, Bangalore, **Prof. Sudha Deshmuk Ph.D.**, Dean, Biological sciences, **Dr. Sunil S More Ph.D**, Coordinator Dept. of Biochemistry, **Mrs. Malini M.Sc., M.Phil., (Ph.D)**, **Mrs. Rashmi M.Sc., (Ph.D)** Lecturers dept. of Biochemistry, **Prof. Leela Iyengar**, Adjunct professor for their valuable suggestions.

My honest thanks are due to **Dr. M. Suriyavathana, M.Sc., M.phil., Ph.D.**, **Mrs. M. Krishnaveni, M.Sc., M.Phil., MBA.**, and **Dr. V. Manju, M.Sc., M.Phil., Ph.D.**, Assistant professors in the Department of Biochemistry, Periyar University, Salem for their helpful suggestions and motivation.

ACKNOWLEDGEMENT

My special thanks to my colleagues **Mr. Suresh Kumar, M.Sc., M.Phil., (Ph.D.)**, **Mr. Veeramanikandan M.Sc., (Ph.D.)**, **Mr. R. Periasamy M.Sc., M.Phil.**, **Dr. P. Satishkumar, M.Sc., M.Phil., Ph.D.**, **Mr. S. P. Vijeikumar M.Sc.**, and juniors **Mr. M. Arulkumar, M.Sc.**, **Mr. K. Balan, M.Sc., M.Phil.**, **Mrs. K. Poonkuzhali, M.Sc., M.Phil.**, **Ms. P. Pratheebaa, M.Sc., M.Phil.**, Department of Biochemistry, Periyar University, Salem who offered their whole-hearted support during my study. I express my thanks to non-teaching staff members **Mr. P. Manivannan**, **Mrs. K. Dhanam**, and **Mrs. S. Sarala** for their kind assistance.

Above all, my special gratitude goes to my wife **Mrs. A. Margret Kanimozhi M.Sc., M.Phil., B.Ed.**, son **Mr. A. Darshan Anshuraj**, parents and my younger brother **Mr. V. Aravindan M.E.** for their forever love, support and prayers, without their tremendous support I would not be success in my life.

-V.ARANGANATHAN