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RESEARCH AREAS:

1. Tissue typing for transplantation
2. Biological characterization and purification of insect hemaggutinin

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RESEARCH INTERESTS:

Our team is working on molecular based typing of HLA. The function of the immune system is to protect us from assault by pathogens and therefore it must be able to distinguish the pathogens, which it must eliminate, from self cells, which it must not. The recognition task faced by the immune system is complicated by the diversity of microorganisms, and the various sites in which they live. It is this dual requirement for the recognition both of the presence of a pathogen and its location that differentiates recognition by T cells from that by B cells and by antibody. The solution to these twin problems is to be found in the Major Histocompatibility Complex whose products are specialized to carry information about both the presence and the location of pathogens. In humans, this gene locus is referred to as the histocompatibility genes and the proteins encoded by the genes, histocompatibility antigens.

The use of molecular typing methods for defining HLA class I and class II alleles is now common place. Every day certain new advances outdate the older techniques. Hence a novel and new methodology will be developed for HLA typing. Matching for solid and bone marrow transplantation, anthropological studies, disease association studies, forensic studies and to facilitate investigations into T-cell mediated immunity. The association of HLA with disease may not be limited to predisposition to progression. The associations of the major infectious disease with HLA are being studied.

PUBLICATIONS:

1. P.D. Mercy, M.R. Basil Rose and M. Jayalakshmi(2004). Partial characterization of an agglutinin from the haemolymph of the marine crab, *Ocypoda platytarsis*. J. Ecobiol. 16 (6) 441-447
2. M. Jayalakshmi, M.R. Basil Rose. and P.D.Mercy (2005). Identification of a natural agglutinin from the haemolymph of the Blister Beetle, *Mylabris indica.* J. Ecobiol. 17(2) 117-123.

3. M.R. Basil Rose, P.D. Mercy and M. Jayalakshmi (2005). Effect of light on the pattern of excretion of urea in a fresh water field crab, *Paratelphusa hydrodromous*. J. Ecobiol. 17(1) 75-78

4. Pitchappan RM.,Kavitha VJ.,Jayalakshmi M.,2008 HLA Genomic diversity of India and its implications in HIV Pandemic.Int J Hum Genet.8(1-2):143-153

5. M. Jayalakshmi and Sr. P.D. Mercy. Population ecology and animal adaptations in "Ecology & Toxicology**"**. Sathana Publications, Nagercoil-4. Page 1.1 to 1.67

6. M. Jayalakshmi and Sr. P.D. Mercy. Basic Concepts of Biochemistry in "Biochemistry & Biophysics". Sathana Publications, Nagercoil-4.