



INSTITUTE COLLOQUIUM

INDIAN INSTITUTE OF SCIENCE
BANGALORE

PROFESSOR M R S RAO
DEPARTMENT OF BIOCHEMISTRY

Will deliver a lecture

on

CHROMOSOME DYNAMICS DURING MALE GERM CELL DIFFERENTIATION IN MAMMALS

on Friday, the 12th February, 1999

at 4.00 PM in the Faculty Hall

PROFESSOR GOVERDHAN MEHTA

Director, will preside

All are cordially invited.

Coffee : 5.00 PM
Reception Hall

Prof. S S KRISHNAMURTHY
Convener

ABSTRACT

DNA in the eukaryotic cells is organized into special nucleoprotein structures, the fundamental unit of which is called Nucleosome. Histones, which organize DNA into nucleosomes, influence DNA transaction processes in addition to their function as structural proteins. Male Germ differentiation process in mammals involves continuous and dynamic changes in chromatin structure brought about by stage specific appearance of histone variants. The research in our laboratory over the last several years has delineated the influence of the testis specific histone subtypes on nucleosome structure and the role of histone H1 in maintaining the higher order structure of chromatin. A detailed analysis of spermatidal protein TP2 has revealed the unique nature of this zinc metalloprotein and its interaction with DNA. We have also discovered the presence of a germ cell specific lamin that is conserved across species. A meiotic DNA repair site form pachytene spermatocytes has been identified. A structure specific endonuclease that is probably involved in the processing of DNA intermediates has been isolated and characterized.