

Indian Statistical Institute



Platinum Jubilee Lecture Series

Indian Statistical Institute is pleased to announce that the second set of lectures in the Platinum Jubilee Lecture Series will be delivered by

Professor Joseph A. Thas
University of Gent, Belgium

at
Indian Statistical Institute
Bangalore Centre

on
31st January 2008

Lecture details

Date : January 31, 2008 (Thursday)

Time : 3.30 P.M.

Title : Generalized Hexagons and Singer Geometries

Abstract:

Recognizing specific geometric structures by certain properties - preferably as weak as possible - is very important in finite geometry, since various configurations can turn up in completely different contexts. Data that are available for structures in projective spaces are in many situations the intersection numbers with respect to subspaces. Our aim is to characterize the standard embeddings of the split Cayley hexagon $H(q)$ in $\text{PG}(5, q)$, with q even, and in $\text{PG}(6, q)$, by intersection numbers. Since in these representations the points of $H(q)$ are all the points of $\text{PG}(5, q)$, respectively all the points of a parabolic quadric of $\text{PG}(6, q)$, such a characterization is impossible if we only consider intersections of the point set of the hexagon with subspaces. That is why we consider intersections of subspaces with the line set of $H(q)$. We obtain very strong results, several of them brand new. Also, a new type of geometry turned up, and these geometries will be called Singer geometries.

Lecture will be held in the Auditorium.

All are welcome.