Note the unusual day, time and place. Note that this talk will be followed by another one.

Aloysius Helminck
North Carolina State University

Orbits of parabolic subgroups on generalized symmetric spaces

Abstract:

Let $G$ be a connected reductive algebraic group defined over a field $k$ of characteristic not 2, $\sigma$ an involution of $G$ defined over $k$, $H$ a $k$-open subgroup of the fixed point group of $\sigma$ and $G_k$ (resp. $H_k$) the set of $k$-rational points of $G$ (resp. $H$). The homogeneous space $X_k:=G_k/H_k$ is a generalization of a real reductive symmetric space to arbitrary fields and is called a generalized symmetric space.

Orbits of parabolic $k$-subgroups on these generalized symmetric spaces occur in various situations, but are especially of importance in the study of representations of $G_k$ related to $X_k$. In this talk we present a number of structural results for these parabolic $k$-subgroups that are of importance for the study of these generalized symmetric space and their applications.