Speaker: Tommy R. Jensen

Title: On a linear algebra version of the Hajós Theorem.

Abstract: *The classical Hajós Theorem gives a constructive characterization of graphs that do not permit a k-coloring, for each natural number k. Several strengthenings of the orginal theorem have appeared, which have applications to other areas, such as to complexity of computation and of formal theorem-proving.*

For a set X of subspaces of a vectorspace V over the field F, it may happen that every linear map from V to F makes some element of X vanish. In this talk we consider a construction of such sets X which is similar to the construction in the Hajós Theorem of non-colorable graphs.

This construction has applications to graph coloring, hypergraph coloring, nowhere-zero flows, zero-sum flows, the complexity of computation and theorem-proving.