

COMBINATORICS SEMINAR
On A Class Of Algebras Associated With Directed
Graphs

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Abstract:

Factorizations of a polynomial $P(t) \in R[t]$ over an associative algebra R into a product of linear polynomials $(t - a)$ can be described by a directed graph. The elements a generate a subalgebra in R called the subalgebra of pseudo-roots of $P(t)$. On the other hand, to any directed graph Γ one can associate the universal algebra of pseudo-roots $A(\Gamma)$ generated by edges of Γ with relations defined by pairs of paths having the same origin and the same end.

Algebras $A(\Gamma)$ and their quadratic dual algebras (when they exist) have many interesting properties that will be discussed in the talk.