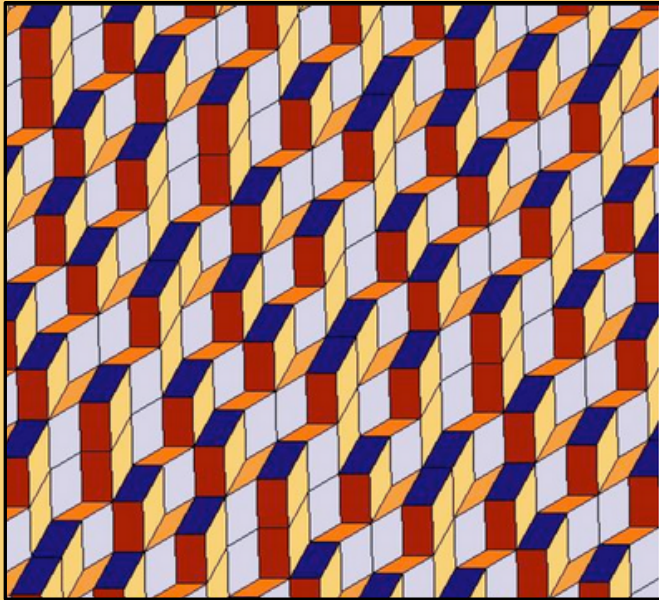


UCCS Department of Mathematics

Math Colloquium Series

DR. DANIEL HERDEN
BAYLOR UNIVERSITY



DATE:

MARCH 21, 2019

TIME:

12:30PM-1:30PM

(REFRESHMENTS AT 12:15PM)

LOCATION:

OSBORNE CENTER
ROOM# A204

Local Automorphisms and incidence algebras

Abstract:

For R a field and P a set let $\Pi = \prod_{x \in P} R e_x$ denote the full cartesian product of $|P|$ copies of R . We will consider the R -algebra automorphisms $\text{Aut}(\Pi)$ of Π and the local automorphisms $\text{LAut}(\Pi)$ of Π , where an R -linear map $\eta : \Pi \rightarrow \Pi$ is called a *local automorphism* if for every $a \in \Pi$ there exists some $\varphi \in \text{Aut}(\Pi)$ with $\eta(a) = \varphi(a)$. We are going to answer two basic questions:

1. What are the R -algebra automorphisms of Π ?
2. Is every local automorphism of Π an R -algebra automorphism?

Surprisingly, the answer to the second question will depend on the chosen model of set theory. We will indicate how this result relates to incidence algebras and will present some of the recent results of the Baylor algebra group on local automorphisms and group automorphisms of incidence algebras. This is joint work with M. Dugas, J. Courtemanche, and J. Rebrovich.

For More Information please contact the UCCS Math Department at (719) 255-3311