

DEPARTMENT OF MATHEMATICS & STATISTICS



UNIVERSITY
OF WYOMING

Thursday

April 7, 2022

4:10 - 5:00 pm AG 1030

Reception before the talk:

Ross Hall 261 at 3:30 pm

Dr. Koen Thas

Professor

Ghent University



A casual introduction to (infinite) translation quadrangles

Abstract: The subject of finite translation planes has been one of the main objects of study in the theory of affine and projective planes, and more generally affine and projective spaces, since ages.

Also in the infinite case, the theory has proved to be extremely successful. Arguably the main reason for this success is that the André-Bruck-Bose construction — which in the finite case relates translation planes to spreads in projective spaces over fields — works in the infinite case as well (in that case, relating the translation planes to spreads in projective spaces over division rings).

In the theory of generalized quadrangles, a successful theory has been built in the finite case as well for translation quadrangles, an André-Bruck-Bose result having been pivotal in the “abelian case.” (The “nonabelian case” is very different.) In the infinite abelian case there are some additional difficulties unfortunately, although a recent result almost got rid of those problems. As such there finally is a gateway to a more controlled and fruitful theory in the infinite case.

In this lecture, I will gently describe some aspects in this discussion.

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