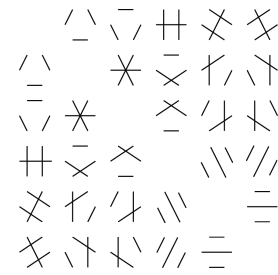


# Mathematics Seminar



## Rocky Mountain Algebraic Combinatorics Seminar

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### Recent progress on ovals, inversive planes and flocks

Tim Penttila  
Colorado State University

I will briefly sketch recent, as yet unpublished, work of Peter Vandendriessche on ovals, before using techniques of around a decade ago to deduce consequences of his results for both inversive planes and flocks of the quadratic cone. The executive summary is: nothing new arises in the cases considered.

### What makes groups different?

James B. Wilson  
Colorado State University

To tell that two groups are non-isomorphic it hardly ever makes sense to test all possible bijections. Instead we search for structures that are invariant to isomorphism and when measured on our two groups return different answers. Recently Timothy Gowers suggested an approach to formalize this reasoning. We will show Gowers' hypothesis fails in a dramatic fashion. This prompts a philosophical reflection: Instead of describing non-isomorphism as an ad hoc list of properties we venerate as "structure", possibly the best explanation that groups are different is just that an isomorphism test failed to declare them equal.

Weber 223  
4–6 pm  
Friday, February 3, 2017  
(Refreshments in Weber 117, 3:30–4 pm)  
Colorado State University

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This is a joint Denver U / UC Boulder / UC Denver / U of Wyoming / CSU seminar that meets biweekly.  
Anyone interested is welcome to join us at a local restaurant for dinner after the talks.



Department of Mathematics  
Fort Collins, Colorado 80523