

**Department of Mathematics and Statistics Colloquium**

**Simply Un-Real Part II:  
a step through the back of the  
wardrobe**

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**Abstract:** In *Simply Un-Real (Part I)*, the development of vector algebra and vector calculus was considered within its historical context, with a view toward the ongoing (re-)emergence of geometric algebra and geometric calculus, a system that could become the standard mathematics of the future for multiple dimensions. While the algebra of geometric algebra (a Clifford algebra) is well-studied, the same cannot be said for its ease of application or its geometry. Now that you've had a simple introduction to the algebra of our multi-dimensional number system,  $G_8$ , (without having to know any high-powered mathematics!), and have seen it to be a simple extension of well-known systems (the reals, complex numbers, quaternions, and vector algebra), it is time to highlight its inherent geometry. After a brief(!) review of the algebra, and armed with some new products for our eight-dimensional Grassmann hyper-complex number system, this talk will reveal some of the fantastical creatures that roam and play within it – *simply unreal!*

**Monday, September 28 at 3:45 in Roop 103**  
**refreshments at 3:30**