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**Tuesday, September 29, 2020, at 10:00 (Boston)  
15:00 (UK/Eire) 16:00 (C.Europe) 22:00 (China)  
Mathematical Picture Language Seminar**

**Zoom at:** <https://harvard.zoom.us/j/779283357?pwd=MitXVm1pYUIJVzZqT3lwV2pCT1ZUQT09>

**K-theory of Operator Algebras, Orbifolds, and Conformal Field Theory**

**David Evans, Cardiff University**

Abstract: Subfactors and K-theory are useful mechanisms for understanding modular tensor categories and conformal field theories CFT. As part of this, one issue to try and construct or reconstruct a conformal field theory as the representation theory of a conformal net of algebras, or as a vertex operator algebra from a given abstractly presented modular tensor category. Freed, Hopkins and Teleman realized the chiral Verlinde rings of WZW models as twisted equivariant K-theory. I will describe work which has led to represent the full CFT and modular invariant partition function K-theoretically and descriptions of Verlinde rings as Hilbert modules over an operator algebra, and higher equivariant twists with bundles beyond compact operators. Orbifold models play an important role and orbifolds of Tambara-Yamagami systems are relevant to understanding the double of the Haagerup as a conformal field theory. This is joint work with Andreas Aaserud, Terry Gannon and Ulrich Pennig.

