1154-55-1527 **Hessel Posthuma*** (h.b.posthuma@uva.nl), Korteweg-de Vries Institute for Mathematics, P.O. Box 94248, 1090 GE, Amsterdam, Netherlands. *Twisted K-theory and the classification of topological insulators.*

In this talk I will sketch, following Freed and Moore, how an exotic version of twisted equivariant K-theory classifies topological phases of free fermions in condensed matter physics. This version of K-theory turns out to be mathematically interesting in its own right. After that I will illustrate the theory with computations in some examples with crystal symmetries, based on joint work with de Boer, Kruthoff and Stehouwer. (Received September 16, 2019)