PETER KOYMANS, University of Michigan
The negative Pell equation and applications

In this talk we will study the negative Pell equation, which is the conic $C_D : x^2 - Dy^2 = -1$ to be solved in integers $x, y \in \mathbb{Z}$. We shall be concerned with the following question: as we vary over squarefree integers D, how often is C_D soluble? Stevenhagen conjectured an asymptotic formula for such D. Fouvry and Kluners gave upper and lower bounds of the correct order of magnitude. We will discuss a proof of Stevenhagen's conjecture, and potential applications of the new proof techniques.