Peter Scholze:**Â p-adic Hodge theory and q-de Rham cohomology**

In the first two talks, I will explain the proof of the Hodge-Tate decomposition for the cohomology of proper smooth rigid spaces, giving the necessary background on perfectoid spaces. In the final talk, I will explain the emerging formalism of q-de Rham cohomology, which is a cohomology theory that knows about (integral) p-adic Hodge theory for all p at once. For schemes over R (an etale Z-algebra), it has coefficients R[[q-1]], and is a q-deformation of de Rham cohomology based on stipulating that the (q-)derivative of X^n is not n X^{n-1}, but (q^{n-1}+...+q+1) X^{n-1}