SPEAKER: Mariusz Wodzicki

TITLE: Surprises in homology

ABSTRACT: The Weyl algebra, $A_1 = k[x, \partial]/([\partial, x] = 1)$, is the algebra $\mathcal{D}$ of differentials on the affine line only when k is a $\mathbb{Q}$-algebra. When k is a ring of algebraic integers or a ring of characteristic $p > 0$, then $\mathcal{D}$ is infinitely more complex, with the arithmetic of binomial coefficients entering as part of its structure. Homology of this algebra, however, is as remarkable as it is surprising...