KEITH JOHNSON, Dalhousie University

Integer valued polynomials on rings of integer matrices

Let $M_n(Z)$ denote the ring of $n \times n$ matrices with integer coefficients. If a polynomial $f(x)$ with rational coefficients has the property that $f(A) \in M_n(Z)$ for any $A \in M_n(Z)$ what can be said about f? That it need not necessarily have integer coefficients is demonstrated, for example, by the polynomial $x^2(x-1)^2(x^2+x+1)/2$ for $n = 2$. This talk will present some recent results about the ring of polynomials satisfying this integrality property.