SANDRA SPIROFF, University of Mississippi
Combinatorial aspects of intersection algebras

For $R = k[x_1, \ldots, x_n]$ over a field k and ideals $I = (x_1^{a_1} x_2^{a_2} \cdots x_n^{a_n})$ and $J = (x_1^{b_1} x_2^{b_2} \cdots x_n^{b_n})$ we obtain closed formulae in n, and the strings of nonnegative integers $\{a_1, \ldots, a_n\}, \{b_1, \ldots, b_n\}$, for various invariants of the intersection algebra. For a commutative Noetherian ring R, the intersection algebra of R with respect to I and J is $\mathcal{B}_R(I, J) = \bigoplus_{r,s \in \mathbb{N}} I^r \cap J^s$. This is joint work with Florian Enescu at Georgia State.