آگهی سخنرانی

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سخنرانی اول: Method of Generating Differentials

Abstract: The method of generating functions is one of the most popular and useful tools in combinatorics. We are able to enhance the method with some commutative algebra. Using derivations and local cohomology, we have a residue map which proves numerous combinatorial identities. In our treatment, various Lagrange inversion formulas are simply a phenomenon of changes of variables of a power series ring. Our viewpoint can be extended to explain all pairs of inverse relations.

سخنرانی دوم: Algebraic Structure of Convolution Identities

Abstract: Local cohomology residues can be used to prove convolution identities of Bernoulli numbers, Euler numbers, Fibonacci number, Genocchi number, Lucas number, Pell number etc. The underlying structure of these identities involves commutative algebra and beyond. Indeed, convolution identities of these numbers come from a parametrization of a variety equipped with a vector field. A Weyl algebra and the universal enveloping algebra of a Lie algebra appear in the framework.

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