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Brian Hopkins* (bhoptins@spc.edu), Department of Mathematics, Saint Peter's College, 2641 Kennedy Blvd., Jersey City, NJ 07306. *Euler, Generating Functions, and Partitions.*

Among the many areas of combinatorics that Euler investigated, partitions of numbers received the greatest attention. Although he did not originate the study of partitions or the use of generating functions, Euler brought these two ideas together for the first time to such amazing effect that, according to George Andrews, "Almost every discovery in partitions owes something to Euler's beginnings." This talk will give an overview of Euler's work on partitions, highlighting the pentagonal number theorem and the surprising result that the number of partitions of k into distinct parts equals the number of partitions of k into odd parts. (Received December 26, 2006)