

1086-05-2806 **Alexander Mikhail Komarinski*** (alexkomarinski@gmail.com), 24 E. Foothill Dr., Phoenix, AZ 85020, and **Meredith Harris**. *A New Proof of the Lecture Hall Theorem*.

Euler proved a bijection between integer partitions with distinct parts and integer partitions with odd parts. The lecture hall partitions can be thought of as a way to arrange the levels of seats in a lecture hall so every student may see the speaker. Bousquet-Melou and Eriksson provided a proof that there is a bijection between these lecture hall partitions and integer partitions of "small" odd parts, which generalizes Euler's celebrated result. In this presentation we provide a new Coxeter-free bijection using abacus diagrams and bounded partitions. (Received September 25, 2012)