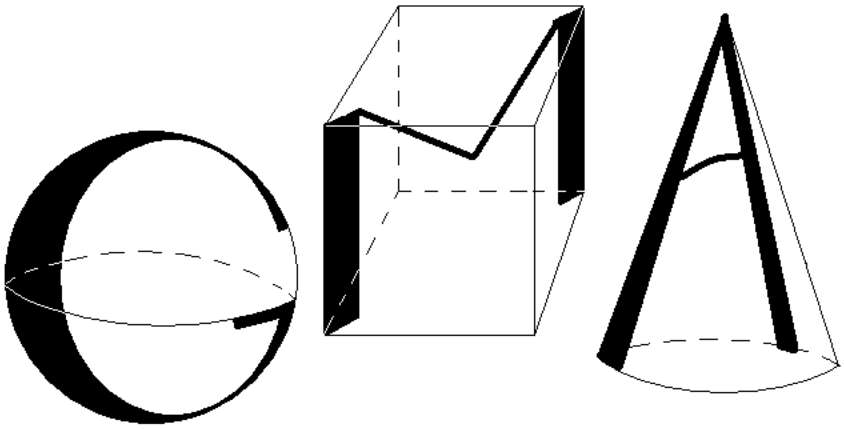

# Colloquium

January 25, 4:05 p.m. ($9^{th}$ Period)

(in the Atrium)

**Speaker**: Jason Johnson

**Title**:A Combinatorial Proof of Fine's Theorem on Partitions

## Abstract

I will discuss the definition and elegance of combinatorial proofs. I will then quickly visit a proof of Fine's Theorem using hypergeometry identities. Finally, I will present a simple and elegant proof of the eponymous proof due to Igor Pak and Christine Bessdenrodt (though slightly modified as they present a more general result). I believe that not only is this particular proof marvelous in its own simplicity, but also it serves as a quintessential example of why the combinatorial proof is often preferred in modern mathematics. Along the way I will visit some of the most colorful characters in mathematical history and I will highlight some of their most significant and (in at least one case) most nefarious contributions.