1035-11-515   **Ken Ono*** (`ono@math.wisc.edu`), Dept. of Mathematics, University of Wisconsin at Madison, Madison, WI 53706. *Dyson's challenge for the future: The mock theta functions.*

This talk will summarize several joint papers with Kathrin Bringmann on the mock theta functions of Ramanujan. This lecture will give an overview of how certain spaces of half-integral weight Maass forms are isomorphic to classical spaces of theta functions (where the theory of the mock theta functions lies). We use these results to prove a longstanding conjecture of Andrews and Dragonette, and conjectures of Dyson on partitions. (Received September 10, 2007)