1018-11-54   **Ken Ono*** (`ono@math.wisc.edu`), Dept. Mathematics, University of Wisconsin, Madison, WI
53706, and **Kathrin Bringmann**. *Mock theta functions.* Preliminary report.

In his last letter to Hardy, Ramanujan defined 17 peculiar functions which are now referred to as his mock theta functions. Although these mysterious functions have been investigated by many mathematicians over the years, many of their most basic properties remain unknown. This inspired Freeman Dyson to write in 1987, "The mock theta-functions give us tantalizing hints of a grand synthesis still to be discovered." Here we announce a solution to Dyson's "challenge for the future" by providing the coherent group-theoretic structure that Dyson desired in his plenary address at the 1987 Ramanujan Centenary Conference. (Received February 20, 2006)