1077-32-415　　　　　**Alexander J. Izzo*** (`aizzo@math.bgsu.edu`). *Function algebras invariant under group actions.* Preliminary report.

Motivated by his work on a conjecture of William Arveson in operator theory, Ronald Douglas raised the following question, where $S$ denotes the unit sphere in complex $n$-space. If $A$ is a function algebra on $S$ that contains the ball algebra $A(S)$ and whose maximal ideal space is $S$, and if $A$ is invariant under the action of the $n$-torus on $S$, does it follow that $A = C(S)$? When $n = 1$, Wermer's maximality theorem gives immediately that the answer is yes. Surprisingly, in higher dimensions the answer depends on the dimension. We will discuss the solution to Douglas' question and present related results of a more general nature concerning function algebras that are invariant under group actions. (Received August 30, 2011)