1068-32-2 **Brett D. Wick*** (wick@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332-1060. *The Corona Problem.*

Carleson's Corona Theorem from the 1960's has served as a major motivation for many results in complex function theory, operator theory and harmonic analysis. In a simple form, the result states that for N bounded analytic functions $f_1, \ldots, f_N$ on the unit disc such that $\inf |f_1| + \cdots + |f_N| \geq \delta > 0$ it is possible to find N other bounded analytic functions $g_1, \ldots, g_N$ such that $f_1 g_1 + \cdots + f_N g_N = 1$. Moreover, the functions $g_1, \ldots, g_N$ can be chosen with some norm control.

In this talk we will discuss some generalizations of this result to certain vector valued functions and connections with geometry and to function spaces on the unit ball in several complex variables. (Received January 17, 2011)