1116-VB-2947 **James Cockreham***, jcockreham@uidaho.edu, and **Fuchang Gao**, fuchang@uidaho.edu. *The Metric Entropy of the Space of Separately Convex Functions.* Preliminary report.

The ε-metric entropy of a precompact set A in a metric space is the logarithm of the minimum covering number of A by balls of radius ε. In this paper we investigate the metric entropy of the class $\mathcal{F}^d$ of *separately convex functions* on $[0,1]^d$, that is, the class of multivariate functions on $[0,1]^d$ which are convex in each variable while the others are held fixed. In particular, under some mild assumptions we obtain a sharp estimate on the upper bound of the metric entropy of $\mathcal{F}^d$. We extend our result further to the class $\mathcal{F}_g^d$ of functions which are separately convex upon precomposition with an appropriate, given function g. (Received September 23, 2015)