Bundle size pricing (BSP) is a multi-dimensional selling mechanism where the firm prices the size of the bundle rather than the different possible combinations of bundles. In BSP, the firm offers the customer a menu of different sizes and prices. The customer then chooses the size that maximizes his surplus and customizes his bundle given his chosen size. While BSP is commonly used across several industries, little is known about the optimal BSP policy in terms of sizes and prices along with the theoretical properties of its profit. In this talk, we provide a simple and tractable theoretical framework to analyze the large-scale BSP problem where a multi-product firm is selling a large number of products. The BSP problem is in general hard as it involves optimizing over order statistics, however we show that for large numbers of products, the BSP problem transforms from a hard multi-dimensional pricing problem with concave and increasing utilities. Our framework allows us to identify the main source of inefficiency of BSP that is the heterogeneity of marginal costs across products. For this reason, we propose two new BSP policies called “clustered BSP” and “assorted BSP” that significantly reduce the inefficiency of regular BSP. We then utilize our framework to study richer models of BSP such as when customers have budgets and when there exists multiple customer types.

This is joint work with Tarek Abdallah and Arash Asadpour.

**BIO:** Josh Reed is an Associate Professor at New York University’s Stern School of Business. Professor Reed's primary research interests are in the performance analysis and optimal control of stochastic networks arising in manufacturing and service systems. In particular, he is interested in applications related to telephone call centers. Professor Reed received his Ph.D. in Operations Research from the Georgia Institute of Technology and his B.S. with honors in Industrial Engineering from the University of Illinois.