



## Dr. Robert J. Tomko

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Taking out the trash (can): insights into  
proteasome destruction by autophagy

The ubiquitin-proteasome system mediates more than 80% of regulatory and quality control protein degradation in eukaryotes, and is frequently dysfunctional in human diseases. Accumulation of inactive proteasomes occurs in tissues of Huntington's and Parkinson's patients, suggesting that loss of proteasome quality control or failure to clear inactive particles contributes to disease pathology. However, virtually nothing is known about the fate of damaged, defective, or unneeded proteasomes in vivo. Recent efforts have revealed that proteasomes are turned over by selective autophagy, and we have found that autophagic turnover of proteasomes is unexpectedly complex. Here, I will discuss the differential processing for autophagy of proteasomes residing in distinct subcellular compartments, and will highlight a key role for the evolutionarily conserved sorting nexin Snx4 in packaging proteasomes for delivery to the lysosome for destruction.

DEPARTMENT OF  
CHEMICAL & BIOMEDICAL  
ENGINEERING

GRADUATE SEMINAR  
SERIES

Where:

Herbert F. Morgan  
Building A, Room 113

When:

Friday, April 6th, 2018  
at 11:00am