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# Seminar announcement

## "Recognition, partitioning, and asymmetrical segregation of protein aggregates – links to aging"


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**Thursday, February 25, 2016 | 11:00 am**
**Donnelly Centre Red Seminar Room**

## Abstract:


Asymmetric cell division is key to cell renewal and the budding yeast *Saccharomyces cerevisiae* utilizes such asymmetrical division to generate a rejuvenated daughter cell from a mother cell that grows progressively older with each cell division and finally perishes - the hallmark of replicative aging. This singular division event provides a tractable model for how age physiognomies are reset in the progeny and we have previously shown that the generation of a pristine daughter cell encompasses spatial protein quality control (SQC) including an asymmetrical segregation and compartmentalization of cytoplasmic 'aging factors', such as damaged and aggregated proteins. Previous candidate approaches have revealed that the protein remodeling factor Hsp104, the anti-aging protein Sir2, the actin cytoskeleton, and actin polarity machinery are required for this asymmetrical inheritance of aberrant and aggregated proteins. We have now used high-content-imaging (HCI) combined with synthetic genetic array (SGA) technology in a systematic, genome-wide, screen for genes required for formation, recognition, and asymmetric inheritance of aggregates. Apart from requiring members of the polarity machinery, recognition and deposition of aggregates into inclusions involve key factors engaged in peroxide-signaling, vesicle transport, and tethering to specific organelles, some of which act as pace-setters of aging.


**Host: Dr. Charlie Boone**