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University of Vienna,  
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**“Molecular Mechanisms of  
Autophagosome Formation”**

**Abstract:**

Autophagosomes are small double membrane-bound organelles that are formed *de novo* during a process called autophagy. Autophagosomes mediate the bulk degradation of cytoplasmic material such as aggregated proteins, dysfunctional or surplus mitochondria and intracellular pathogens. Autophagy is conserved from yeast to human and has been shown to protect the organism from conditions such as starvation, neurodegeneration and infectious diseases. During autophagosome formation initially small, double membrane structures termed isolation membranes are formed. These isolation membranes expand and thereby gradually enclose cytoplasmic cargo. Finally, isolation membranes close to give rise to mature autophagosomes. After their formation autophagosomes fuse with lysosomes or vacuoles in yeast within which their inner membrane and the content are degraded. Despite their importance little is known about how cells generate autophagosomes. In order to gain insight into how the cellular machinery generates autophagosomes we reconstitute crucial steps *in vitro*. I will present our insights we gained from our reconstitution experiments.

Friday, February 17, 2012 at 12:15 pm  
Institute for Genetics, Zùlpicher Str. 47a, Lecture Room, ground floor

Host: Jonathan Howard