

**Advanced Undergraduate Seminars  
2013-2014**

**Fall 2013**

**7.341 Unraveling the Molecular Mechanisms of Aging and Age-Related Diseases.**  
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## 7.342 Cell-material Crosstalk: Engineering Cell-

production of reactive oxygen species (ROS), a byproduct of mitochondrial respiration, which can lead to damage of DNA, RNA, proteins and lipids. Furthermore, mutations in mitochondrial DNA have been associated with promoting tumor growth and causing defects in apoptosis, also known as “programmed cell death,” in cancer, thereby allowing cells









as the benefits





