

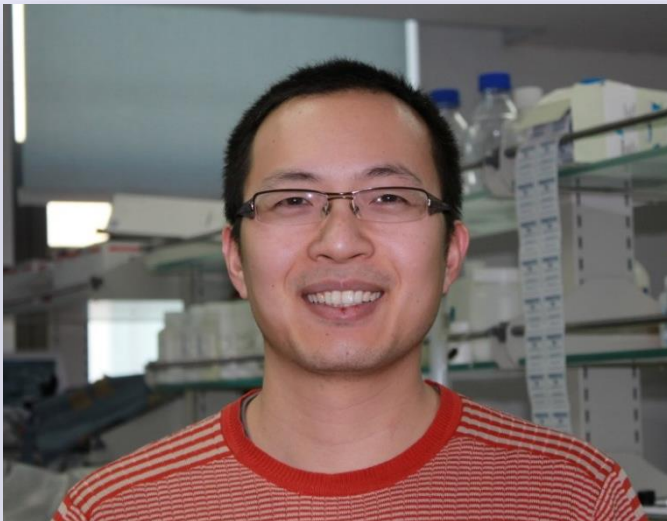
07 June 2019 (Friday), 3pm
The Auditorium (Level 1)

Hosted by: Dr ZHANG Dan

ER-mitochondria contact and stress signaling

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Junjie Hu graduated from New York University and was trained as a postdoctoral fellow in Tom Rapoport's lab. He is investigating the molecular basis of how the membranes of the endoplasmic reticulum are shaped and functioned and how they are remodeled by homotypic fusion.

The tubular network is a critical part of the endoplasmic reticulum (ER). However, the specific functions of this ER domain are not clear. Using immunoisolation and quantitative proteomics, we identified 79 proteins enriched in the tubular ER. Functional categorization of the list revealed that the tubular ER network may be involved in membrane trafficking, lipid metabolism, organelle contact, and stress sensing. Among the newly identified tubular ER proteins, we focused on an uncharacterized protein YPR091C (Nvj2p), which has been recently implicated in ER-Golgi tether that facilitates ceramide transport to alleviate lipotoxicity. We confirmed that the mammalian homolog HT008 is localized to the tubular ER and is induced by various cellular stresses. Our results suggest that ER-resident HT008 could engage mitochondria and transfer ceramide from the ER to mitochondria to trigger apoptosis.

Recent Publications:

1. Wu Y, Li X, Jia J, Zhang Y, Li J, Zhu Z, Wang H, Tang J, **Hu J**. Transmembrane E3 ligase RNF183 mediates ER stress-induced apoptosis by degrading Bcl-xL. *Proc Natl Acad Sci USA*. 2018
2. Yan L, Qi Y, Huang X, Yu C, Lan L, Guo X, Rao Z, **Hu J**, Lou Z. Structural basis for GTP hydrolysis and conformational change of MFN1 in mediating membrane fusion. *Nature Structural & Molecular Biology*. 2018
3. Wang X, Li S, Wang H, Shui W, **Hu J**. Quantitative proteomics reveal proteins enriched in tubular endoplasmic reticulum of *Saccharomyces cerevisiae*. *eLife*. 2017