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# INSIGHTS FROM OLIGOMERIC AND POLYMERIC AUTOPHAGY RECEPTOR COMPLEXES BY ELECTRON MICROSCOPY

**Sachse C**
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**Recently, we showed that autophagy receptor p62/SQSTM-1 assembles into flexible helical filaments. In the current talk, we provide further detailed insights into the molecular basis of polymer formation. Using EM based structure elucidation *in vitro* and *in situ* reveals large oligomeric and polymeric cargo receptor complexes giving rise to higher-order structures that constitute the scaffold for autophagosome formation. The organization of small receptor proteins into helical assemblies provides a cellular mechanism for high selectivity in cargo recognition and a fundamental architecture that enables cargo encapsulation of various sizes from molecular to cellular scale. The presented example illustrates the versatility and synergy of structural and cellular electron microscopy approaches.**

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