Ultrastructure of COPII vesicle formation.

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Inside the cell, transport of proteins and lipids between organelles is mediated by membrane carriers known as vesicles. The formation of these vesicles requires the participation of coat proteins which are capable to change the shape of membranes into extremely curved structures, ultimately catalyzing the scission and release of a free vesicle to the cytoplasm. Vesicular transport from the endoplasmic reticulum (ER) to the Golgi apparatus is mediated by Coated Protein complex II (COPII). How this machinery organizes to overcome energy barriers such as membrane bending and protein packing remains poorly understood. Using *S. cerevisiae*, our goal is to study the ultrastructure of both the ER exit sites and vesicle formation process. We use high resolution microscopy methods, such as correlative light and electron tomography to observe membrane shape and localization of COPII vesicles with high spatial resolution.