

The Biological and Biomedical Joint Seminar Series

(Hosted by the departments of Molecular & Cellular Biology, Chemistry & Biochemistry, Cellular & Molecular Medicine, and Plant Sciences)

“Nuclear mRNA metabolism directs specialization of the nuclear pore complex in yeast”

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Zoom Meeting @ 11AM

Hosted By: Ross Buchan (MCB)



To determine which transcripts reach the cytoplasm for translation, eukaryotic cells have established mechanisms to regulate selective mRNA export through the nuclear pore complex (NPC). The nuclear basket, a substructure of the NPC protruding into the nucleoplasm, is thought to function as a platform where mRNAs are rearranged and undergo quality-control prior to export, ensuring that only mature mRNAs reach the cytoplasm. Using proteomic, genetic and microscopy approaches we demonstrate that the presence of a basket is in fact not the default mode for NPCs in yeast and that the formation of a basket is dependent on RNA polymerase II transcription and subsequent mRNP assembly. Our observations suggest that, in yeast, baskets assemble as part of an mRNP that only forms at a subset of pores, a process possibly linked to the selective export or quality control steps of specific classes of mRNAs.

Zoom Link: <https://arizona.zoom.us/j/85848818129>

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