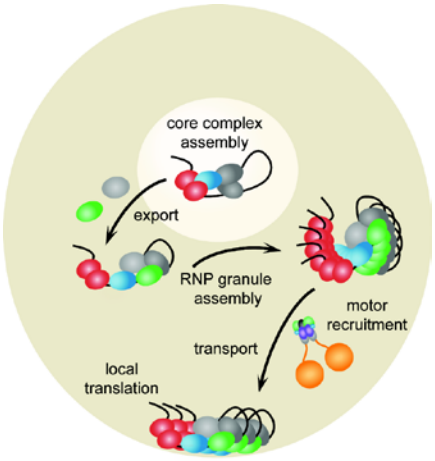
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Localized mRNA expression: motors and messages



RNA localization is a widely conserved mechanism for generating polarized gene expression. We have studied the localization of mRNA in the *Xenopus* oocyte as a model to gain mechanistic insight into how RNA molecules can be targeted to specific regions of the cell cytoplasm to generate spatially restricted gene expression. A major focus of our studies is Vg1 mRNA, which is transported to the vegetal hemisphere cytoplasm and encodes a secreted grown factor whose restricted expression is required for proper embryonic patterning. Localized Vg1 expression is ensured through at least two mechanisms: efficient transport of the mRNA to the vegetal cytoplasm and tight translational repression during transport. Our recent studies have focused on tracing the molecular pathway for cytoplasmic RNA localization, from motor-driven RNP transport in the cytoplasm to events at the oocyte cortex that trigger spatially-restricted translation.

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Host: Dr. Howard Lipshitz

Date: Friday May 8th, 2015
Time: 2PM
Place: 1 King's College Circle, Medical Sciences Building, Room 4279