

# Colloquium Notice

**Diana Bratu**

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*Visualizing mRNA transport during *Drosophila melanogaster* oogenesis*

Research efforts to better understand the regulation of mRNA are afoot worldwide, with one of the key challenges being the visualization of mRNA and how it interfaces with these proteins to influence the expression of important genes. We are contributing to this field through a gamut of unique biophotonic methods, from probe design to advanced imaging approaches, thus improving upon the detection and accuracy of mRNA visualization and its co-localization with trans-acting proteins important for the normal function of processes within a cell.

Using *Drosophila melanogaster* (the fruit fly) as a model organism, my research group employs fluorescent probes and spinning disc confocal microscopy to track the movement of mRNA and proteins throughout the egg chamber. We employ genetically encoded fluorescent proteins and short molecular probes (i.e. molecular beacons) allowing for the detection of various endogenous proteins and mRNAs, thus enabling real-time tracking of these molecules as they are transported within the cell. While this has obvious implications for the research of oogenesis, these studies act as a biologic proof of principle to guide other researchers<sup>1</sup> studies examining mRNA transport in other systems.

Monday

**April 24, 2017**

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326