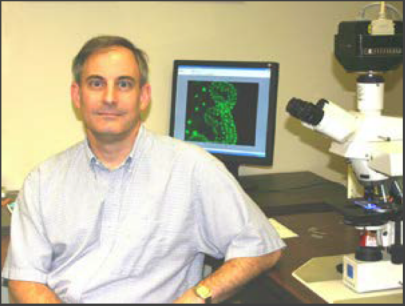


## Nucleolar Stress in *Drosophila melanogaster*

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The DiMario lab studies the molecular-cell biology of the cell nucleus, specifically the nucleolus, which is the site of ribosome biogenesis. Once exported to the cytoplasm, ribosomes work as magnificent nano-machines to read the genetic code carried by various messenger RNAs to synthesize the cell's many different proteins, each of defined amino acid sequence as dictated by the mRNA's specific genetic code.

Failure to produce sufficient numbers of functional ribosomes is now called nucleolar stress. Oncologists are devising innovative methods to employ nucleolar stress in attacking cancer cells that have unusually high demands for ribosome production. Nucleolar stress during organism development, however, can lead to birth defects and syndromes collectively referred to as ribosomopathies.

This talk will describe one particular ribosomopathy in humans called the Treacher Collins Syndrome (TCS), and how the fruit fly, *Drosophila melanogaster*, can model the TCS in terms of molecular and cellular phenotypes associated with nucleolar stress.