

## Welcome to the Molecular-Machine-Shop

**Date: Wednesday, Feb. 2nd, 2005, 4 pm.**

**Venue: Bioinformatics Collaboratory, CMS Building, 2nd floor.**

**Speaker: Michael P Koonce, Wadsworth Center**

**Title: "Understanding the mechanics of the dynein machinery"**

*Dynein is a high-molecular-weight motor protein important for microtubule-based motility in eukaryotic cells. It moves along a tubulin polymer through repetitive binding and release cycles that are tightly coordinated with force generation and nucleotide hydrolysis*

Dear Colleagues,

The Center for Molecular Machines is a new initiative that seeks to capitalize on the strengths of the Wadsworth Center in three-dimensional imaging with a wide range of resolutions and levels of structural detail. The Center for Molecular Machines is, however, not meant to be a club of structural biologists. It is open to participation by ALL investigators, postdocs and students who have an active interest in "biomolecular machines" in the widest sense of this term.

Cryo-EM in particular has been recognized for its ability to capture different stages of processive macromolecular machines and intermolecular interactions in isolated systems, but the information it provides cannot be deciphered in the absence of atomic structures from X-ray crystallography and NMR. Methods of fitting and dynamic modeling are required for a full picture of functional processes.

The Center, currently a concept, will become a reality through the imagination and efforts of those actively involved. We hope it will become a rallying ground for collaborations, and an inspiration for teaming up for collaborative research programs worthy of Program Grants. Development of a Training Grant is one of the obvious opportunities to be pursued.

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**The Wadsworth Center**