

**From:** [support@perc.ufl.edu](mailto:support@perc.ufl.edu)  
**To:** [Jackson, Donna A](#)  
**Subject:** New Project Proposal Submission  
**Date:** Friday, June 05, 2009 11:30:28 AM

Graduate Student Mentor:	Pei-Hsun Wu
Phone:	(352) 392-2985
Email:	peihsun.wu@gmail.com
Lab Address:	402 Nuclear Science Building
Department:	Chemical Engineering
Faculty Advisor:	Yiider Tseng
Phone:	(352) 392-0862
Email:	ytseng@che.ufl.edu
Lab Address:	402 Nuclear Science Building
Department:	Chemical Engineering
Title:	Studies of the PML nuclear body dynamics in the nucleus
Problem:	The structure of nucleus lead to the nucleus activities, including genome function and regulation. In addition, it is unclear what are the roles of many nuclear bodies, such as PML body, play in this nucleus formation and dynamics events.
Approach:	Mouse PML cDNA will be cloned into the EGFP expressing vector as a construct. When the construct is introduced into the Mammalian cells and the PML-GFP is expressed to locate at PML body, the PML nuclear body dynamics can be tracked real time using fluorescence microscopy techniques.
Techniques/Equipment:	Basic Polymer physics theory, basic molecular biology, basic cell biology, fundamental microscopy operation, fluorescent microscopy, and MatLab software.
Systems and Materials:	Routinely used molecular biology, cell biology reagents, PML protein cDNA, fluorescent microscopy, and MatLab software.
Goals:	he nuclear structure and dynamics are not full revealed. Many studies are ongoing and many nuclear structure models are proposed. This study aims to understand the real time dynamics of PML body in nucleus to understand the nucleus dynamics associated with PML body.
Relevant Industries/Applications:	The nucleus is the most relevant compartment in the cells. The expression of all the cell physiological and pathological phenotypes involves nucleus functions, which is highly associated to their structure and dynamics. Pharmaceutical company is actively seeking for

	screening/assessment methods for drug development. This project potentially lead to an effective method to contribute to their aim.
Number of Students Requested:	1
Time Commitment:	20
Semesters Required to Complete Project:	2
Will this Project Satisfy Senior/Honor Research Requirements in your Department?	Yes
If not, Can the Scope of this Project be Expanded to Meet Senior/Honor Research Requirements?	Yes