

**From:** [support@perc.ufl.edu](mailto:support@perc.ufl.edu)  
**To:** [Jackson, Donna A](#)  
**Subject:** New Project Proposal Submission  
**Date:** Wednesday, May 20, 2009 5:47:10 PM

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Lab Address:	159 Rhines Hall
Department:	Materials Science and Engineering
Title:	Thin film titania aerogel coatings
Problem:	To design a process to coat surfaces with a thin film of titania aerogel.
Approach:	Spin coating of titania sol-gels, gelation, solvent exchange, and supercritical drying.
Techniques/Equipment:	Spin coating, sol-gel chemistry, scanning electron microscopy, profilometry
Systems and Materials:	The material of interest is the anatase phase of TiO <sub>2</sub> due to its photocatalytic properties
Goals:	A working process for applying a thin film of titania aerogel with control over the thickness, good adhesion, and maximum possible porosity.
Relevant Industries/Applications:	Catalytic reactors, boiling heat transfer (due to the super hydrophilic property and high porosity)...
Number of Students Requested:	1
Time Commitment:	10
Semesters Required to Complete Project:	1-2
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	Yes

Requirements?