

The following are a few potentially interesting topics for final papers. Remember: these papers should be no more than 10 pages, and should be based on at least *two* papers from the recent literature. I want you to do more than just paraphrase journal articles. Rather, you should analyze and synthesize based on them – give me some critical thinking and intellectual contribution of your own! For example, you could compare and contrast the approaches or results from two papers, or you could explain how one builds on the work of another. Feel free to be critical. Not every paper is perfect. If you think some assertion in a paper is not backed up by the data, then feel free to say so. Make sure you give some introductory material. That is, assume your audience is technically literate (no need for a “Throughout history” kind of intro) but not necessarily a hardcore expert. *Always* be careful about adequately citing and crediting the work of others. The final papers will be due Friday, April 17, 2009, and *must include a signed honor pledge!*

I strongly suggest using ISI’s Web of Science searchable online database to hunt for papers of interest and chase down references. You can get to it from the Fondren Library webpage under “Electronic Indexes”.

Topics:

- Quantum limits of nanomechanical systems
- Quantum mechanical forces
- Nanomechanical sensors
- Nanotribology
- Fluids confined at the nanometer scale
- Nanoscale surface modification in manipulating fluids
- Breakdown of the Navier-Stokes equations or continuum approximation
- Nanobiological motors
- Integrations of bio- and nanotechnology
- Biomimetics and nanoscale materials
- Bio-based nanoassembly