

**DEPARTMENT OF PHYSICS
McMicken-College of Arts & Sciences**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: MARCH 1, 2005

The Department of Physics is pleased to offer the following research project for the summer of 2005. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

Dynamic Pulmonary Function Monitor

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A student could work on development of a Dynamic Pulmonary Function Monitor (DPFM). Depending on availability of funding, this could include measurements of atomic spectra in RF-induced plasmas, development of software to acquire and analyze such data, Monte Carlo simulation of DPFM sensitivity, work on a gas distribution and mixing system, work developing a mechanical lung model, etc. Resources required for the first three items on the list already exist; resources for the latter two items are being requested.