

**OBSTETRICS AND GYNECOLOGY
MEDICINE****SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students****FOR APPLICATION YEAR: 2026****PROJECT TITLE: Nanovesicles based fetal treatments**

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Project Description

Nanovesicle and nanoparticle based therapies offer significant advantages over traditional treatments of fetal conditions by reducing the risk of off-target effects and by allowing more selective therapies. We are evaluating the use of lipid based nanoparticles as well as natural derived nanovesicles for delivery of angiogenic promoting factors to the developing placenta and fetus to treat disorders related to abnormal fetal growth, which negatively affects up to 10 percent of all pregnancies. The student will become facile in immunofluorescent imaging, PCR, and histology, and will have the opportunity to study tissues both in vivo and in vitro.