

## COLLEGE OF PHARMACY

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: 02/25/2022

PROJECT TITLE: Sustained local drug delivery in the oral cavity

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**Project Description**

Current therapies for local drug delivery in the oral cavity are lacking. For example, interventions such as scaling and root planning in the treatment of periodontal diseases are invasive and moderately effective. Topical drug delivery methods are not very effective due to the dilution and rapid elimination of the drugs in the oral cavity and the gingival tissue barrier for drug penetration. A convenient and effective method for local treatment of chronic periodontal diseases is not available. The present project will develop a local drug delivery platform for disease treatment in the oral cavity. Experiments will be conducted to prepare and characterize microspheres and in-situ forming gels for sustained drug delivery to the oral tissue. Drug release from the sustained delivery systems will be evaluated to assess their feasibility and for formulation optimization. Other enhancement methods and formulations to improve drug delivery will also be explored.