

**2024-2025 Available MSc Thesis Project from the Brouwer-Tiley Lab  
UNC Eshelman School of Pharmacy**

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**Development of a Novel *In Vitro* Human Hepatocyte Model to Predict Drug Transport Alterations in Nonalcoholic Fatty Liver Disease (NAFLD)**

**Description:** This project aims to develop a new *in vitro* NAFLD model that can be utilized to study drug disposition in this disease state. *In vitro* data will be incorporated into physiologically based pharmacokinetic (PBPK) models to improve pharmacokinetic predictions in NAFLD patients.

**Methods:** The student will learn human hepatocyte cell culture methods and assays to study drug disposition (e.g., uptake and efflux studies, B-CLEAR®). The student will also become familiar with data analysis tools (e.g., R) and PBPK modeling software (i.e., Simcyp™ Simulator) to translate *in vitro* data to *in vivo* predictions.

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