

2015-16 Discovery Pathways Program and Medical Student Research Program (MSRP)

Faculty Mentor Information:

Patrick Tighe MD MS
Assistant Professor
Dept. of Anesthesiology
University of Florida
ptighe@anest.ufl.edu
Pager: (352) 413-7898
Office: (352) 273-7844
<http://tighelab.anest.ufl.edu>

Research Project 1:

Social Network Analysis of Perioperative Outcomes

Each year, over 50 million inpatient surgeries are performed in the US alone. Our team uses social network analysis to determine how surgical team composition can influence postoperative patient outcomes. Students will first receive formal training in social network analysis, including coding in iPython using Jupyter, and then work on characterization of subnetworks or perioperative healthcare teams. Prior students with no experience in computer science have successfully completed projects leading to multiple abstract publications. Our lab is funded by a K23 and R01 from the National Institutes of Health.

Research Project 2:

Analytical Framework Development for Patient Controlled Analgesia

Patient-controlled analgesic therapy remains a staple of postoperative pain management for a wide range of surgical procedures. However, to date there has not been a standardized mechanism for obtaining, analyzing, and applying data from PCA devices to optimize the safety and efficacy of postoperative analgesia. Students will develop a pipeline for analyzing, visualizing and disseminating data from PCA device data captured as part of an R01-funded project examining the temporal dynamics of postoperative pain. Students interested in this project should have a background in computer programming and/or a strong motivation to become facile with software development. Our lab is funded by a K23 and R01 from the National Institutes of Health.