BME 590: FUNDAMENTALS OF ENGINEERING DESIGN

MEDICAL DEVICE DESIGN: PROJECT TOPICS

PALMERI - FALL 2017 / SPRING 2018

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| **Project Number** | **Clinical Department**  **(Faculty Mentor)** | **Project Description** |
| 1 | Surgery / Urologic Oncology  (Dr. Ali Amin Sharifi, M.D.) | Laparoscopic needle detector system for localization of retrieving a lost needle in the abdomen |
| 2 | Surgery / Respiratory Therapy  (Dr. Harrison Jones, Ph.D.) | Advanced respiratory training device for Pompe’s disease therapy |
| 3 | Anesthesiology  (Dr. Ian Welsby, M.D.) | Low-cost, combined suction/visualization intubation device for OR, ED, military, & EMT applications |
| 4 | Cardiology  (Dr. Muath Bishawi, M.D.) | Improved, non-invasive blood pressure monitor |
| 5 | Anesthesiology  (Dr. Stuart Grant, M.D.) | Improved depth of anesthesia monitor using muscle stimulation |
| 6 | Gastroenterology  (Dr. Andrew Muir, M.D.) | Improvement of endoscopy ergonomics |
| 7 | Surgery / Urologic Oncology  (Dr. Ali Amin Sharifi, M.D.) | Noninvasive medical system to measure the length of intramural ureter in children |
| 8 | Gastroenterology  (Dr. Katie Garman, M.D.) | Automated cell culture reagent exchanger |

Projects will have groups of 3 students assigned to them.

Projects 1-4 are for the undergraduate student section; projects 5-8 are for the masters student section.