

Joint Biomedical Engineering Seminar Series

MU ▪ MCW ▪ UWM

SEMINAR

Friday, March 3rd, 2017

12:00 – 1:00 pm

HRC Auditorium



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“Towards virtual surgery planning for nasal airway obstruction”

Nasal airway obstruction (NAO) is an unpleasant condition characterized by subjective sensation of breathing difficulty.

Each year 340,000 patients undergo surgery to treat NAO in the United States alone.

Treating patients with NAO is a challenge as there is a lack of reliable objective measures that correlate with patient’s symptoms.

Consequently, the decision to perform surgery is currently based on clinical exam findings and surgeon experience without any objective measures.

The lack of objective measures in surgical planning is believed to explain in part why a large percentage of patients (~25%) report persistent symptoms of obstruction post-operatively.

In this seminar, we will review recent progress in objective evaluation of nasal obstruction with emphasis on computational fluid dynamics (CFD) simulations of nasal airflow and inspiratory mucosal cooling.

We will also discuss progress towards the development of a virtual surgery planning tool for NAO based on computer simulations and medical imaging.