

Joint Biomedical Engineering Seminar Series

MU ▪ MCW ▪ UWM

SEMINAR

Friday, November 17th, 2017

12:00 – 1:00 pm

Kerrigan Auditorium



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“Airway collapse and airflow limitation in obstructive sleep apnea”

Obstructive sleep apnea (OSA) is a disease characterized by recurrent episodes of airway collapse and airflow limitation during sleep. Fragmented sleep and reductions in blood oxygen saturation lead to several comorbidities, including cardiovascular disease and hypertension. With an estimated prevalence of 4% in men and 2% in women, OSA has a major public health impact. The mechanism of airway collapse in OSA is often explained by the Starling Resistor model. In this model, the pharynx is considered a collapsible tube mounted between a rigid upstream segment (the nasal cavity) and a rigid downstream segment (the trachea). The collapsible tube is enclosed by a sealed chamber where the external air pressure can be varied. The tube collapses when air pressure inside the tube becomes less than the external pressure. In this seminar, I will summarize in vivo measurements, in vitro experiments, and numerical simulations being conducted in our lab using fluid-structure interaction (FSI) techniques aimed at developing a better understanding of the Starling Resistor model and its application to explain airway collapse and airflow limitation in obstructive sleep apnea.

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Medical College of Wisconsin is located at 1101 N. 87th St., Milwaukee, WI 53226. Parking is available across the street in visitor parking. Refreshments will be served.