



## ***RNA Innovation Seminar***

Monday, February 18, 2019 at 3:00pm  
ABC Seminar rooms, Biomedical Research Science Building  
(BSRB), 109 Zina Pitcher

## **Mengxi Wu, PhD**

Mentor: Katsuo Kurabayashi

### ***“Isolation of exosomes from blood by integrating acoustics and microfluidics”***

#### **Abstract**

Exosomes are nanoscale extracellular vesicles that play an important role in many biological processes, including intercellular communications, antigen presentation, and the transport of proteins, RNA, and other molecules. Recently there has been significant interest in exosome-related fundamental research, seeking new exosome-based biomarkers for health monitoring and disease diagnoses. Here, we report a separation method based on acoustofluidics (i.e., the integration of acoustics and microfluidics) to isolate exosomes directly from whole blood in a label-free and contact-free manner. With its ability to perform rapid, biocompatible, label-free, contact-free, and continuous-flow exosome isolation, the integrated acoustofluidic device offers a unique approach to investigate the role of exosomes in the onset and progression of human diseases with potential applications in health monitoring, medical diagnosis, targeted drug delivery, and personalized medicine. Lab website/relevant link to this research:

<http://acoustofluidics.pratt.duke.edu/>

#### **CV/Bio:**

Mengxi Wu received his bachelor and master degree from Peking University, China majoring in Micro-Electro-Mechanical Systems. He got PhD degree in Engineering Science and Mechanics from Penn State University. During his PhD, he worked on acoustofluidics, i.e. the integration of acoustics and microfluidics. His research interests include acoustofluidic technology for the isolation of rare cells, exosomes, extracellular vesicles and blood components. He joined University of Michigan as a postdoctoral fellow and worked with Prof. Katsuo Kurabayashi since September 2018. His current research is microfluidic based analysis of exosomes and micro gas chromatography.

[www.umichrna.org](http://www.umichrna.org)