



**Piezo-driven Nano-positioning System and
Its Application to an Imaging Fabry-Perot
Spectrometer**

*Prof. Jinjun Shan/York University
Thursday, February 19, 2026, 2:30 pm
Dupuis Hall, Room 217*

Piezoelectric actuators have many advantages such as high resolution, fast response, and large bandwidth. They have been used in a wide range of industrial applications to realize high-precise motion. However, the piezoelectric actuators inherently have nonlinear behaviour such as hysteresis, creep, thermal drift and vibration which deteriorates the overall performances including stability of the developed systems. In this talk, Prof. Shan will present the work of his team on dynamics modeling and nonlinearity compensation of the piezoelectric actuators, as well as the application of piezoelectric actuators to an imaging Fabry-Perot spectrometer for observation from space, which has been validated through 4 successful high-altitude balloon flights in 2014-2024.