

# Engineering / Physics Seminar

Wednesday 11/28/2007, 4:45 pm  
Science & Engineering Building Auditorium

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## Capstan Design and Control for Drawing Optical Fiber: A Case Study in Mechatronics Design

This talk presents a case study on the design of a draw capstan drive with feedback control for use in optical fiber manufacturing. Optical fiber is manufactured by the draw process, which involves heating and pulling high purity glass cylinders to diameters of 125 micron. Of critical concern is producing a constant diameter for the glass fiber and its light-guide core. The diameter of the optical fiber must remain constant to create a product capable of transmitting high-bandwidth optical data. The optical fiber draw capstan design has a significant impact on the resulting fiber quality. As the draw speed is used to control the fiber diameter, the ability of the draw capstan to follow velocity commands directly affects the resulting fiber diameter.

*Please join us for light refreshments at 4:15pm outside SEB 203.*