

CCSU  
DEPARTMENT OF MATHEMATICAL SCIENCES

# COLLOQUIUM

Friday, March 28

3:00 – 4:00 PM

Maria Sanford, Room 101

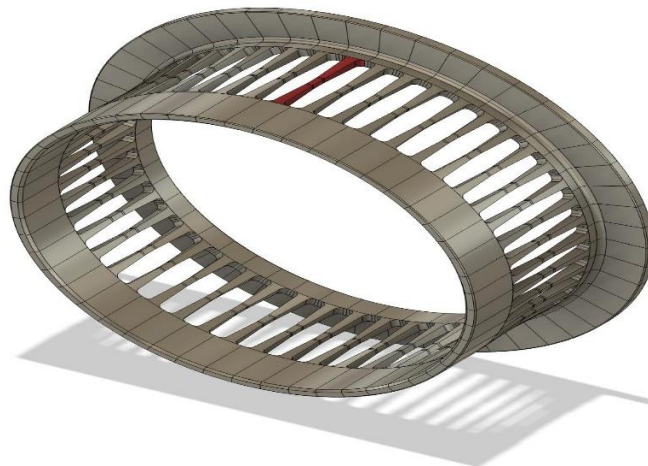
## OPTIMIZATION OF A SYMMETRIC TAPERED BEAM: MINIMIZING LENGTH UNDER STIFFNESS AND STRESS CONSTRAINTS

OSCAR PERDOMO

CENTRAL CONNECTICUT STATE UNIVERSITY

Joint work with Ramin Rafatpanah

**Abstract:** In this talk, we will present an optimization problem related to a symmetric tapered beam with varying square cross-sections. We address the problem of minimizing the beam's total length while satisfying stiffness, stress, and deflection constraints. One application of this problem is the design of squirrel cages, which are commonly used in aero-engine compressors as centering springs.



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