TEMPLE UNIVERSITY
Department of Mathematics

Applied Mathematics and Scientific Computing Seminar

Room 617 Wachman Hall

Wednesday, September 27 2006, 4 p.m.

Buckling of slender structures, I

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In the first lecture I will discuss linear and non-linear theories of elasticity; elastic stability and flip instability. Next I will demonstrate Euler buckling of slender columns. I will then give a definition of near-flip buckling and derive necessary and sufficient conditions for buckling to occur. I will conclude the lecture with "constitutive linearization" leading to Föppl-von-Kármán theory of plates.