DEPARTMENT OF
MATHEMATICS

Colloquium

April 3, 2015

Refreshments will be served at 2:00PM in 302 GP.

The presentation will begin at 2:30 p.m. in 151 Gordon Palmer Hall

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Abstract: In this talk, the boundary value problems (BVPs) for differential-operator equations (DOEs) with small parameters are considered. These problems have numerous applications in PDE, pseudo DE, mechanics and environmental engineering. The main objective of the present paper is to discuss maximal regularity properties of the following degenerate elliptic DOE

$$-\varepsilon a(x)u^{(2)}(x) + A(x)u(x) + \varepsilon^{\frac{1}{2}}A_1(x)u^{(1)}(x) + A_0(x)u(x) + \lambda u = f(x),$$

where ε is a small positive parameter, λ is a complex spectral parameter, $a(x)$ is a complex valued function and A, A_0, A_1 are linear operators in a Banach space E.