TEMPEL UNIVERSITY
Department of Mathematics
Analysis Seminar
Room 617 Wachman Hall
Monday, October 25 2021, 2:30 p.m.

On the Lack of Fredholm Solvability for the $L^p$ Dirichlet Problem for Weakly Elliptic Systems in the Upper Half-Space
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Abstract: The $L^p$ Dirichlet Problem for constant coefficient second-order systems satisfying the Legendre-Hadamard strong ellipticity condition is well posed in the upper half-space. Surprisingly, this result may fail if only weak ellipticity is assumed, and the failure manifests itself at a fundamental level through lack of Fredholm solvability. In this talk I will discuss a couple of pathological cases, sought in the class of weakly elliptic systems that fail to possess a distinguished coefficient tensor. This is joint work with Dorina Mitrea and Marius Mitrea.