

# Student Differential Geometry Seminar

Stony Brook University

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**Demetre Kazaras** : “Aspects of Ricci-flat, ALE 4-manifolds”

ABSTRACT: In this talk, we will survey some existence and classification results for ALE (asymptotically locally Euclidian) 4-manifolds which are Ricci-flat (or scalar-flat). These objects arise in studying the moduli space of Einstein metrics on closed manifolds and are of interest in (mathematical) general relativity. We will sketch results due to LeBrun 88 and Lock-Viaclovsky 16, indicating their relation to special holonomy and positive mass theorems.