



COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

Samuel Eilenberg Lectures

Richard Schoen

STANFORD UNIVERSITY

Scalar Curvature in
Differential Geometry



Conditions on the scalar curvature arise naturally in Differential Geometry and Relativity. After providing the necessary background and motivation we will focus on recent results concerning metrics of constant scalar curvature (the Yamabe problem). In particular we will explain uniform estimates which hold on manifolds up to dimension 24 but which fail in general for higher dimensional manifolds. We will then explain issues (which turn out to be related with the first topic) connected with positive mass theorems for non-spin manifolds of dimension greater than 7. We will make the lectures as self contained as possible. **The first lecture starts September 22.**

Tuesdays, 5:30-6:30 p.m.

312 Mathematics Hall

2990 Broadway at 117th Street

New York City

Tea will be served at 4 p.m. in Mathematics Room 508