Abstract

Capacity of sets and condensers in Euclidean spaces has been an object of study by researchers working in several areas of Analysis and Geometry due to its applications and the important role it plays in physics.

In the first part of this talk, we will present some basic facts about conformal and analytic capacity and its connection and applications to holomorphic functions. A distortion theorem will be examined and the asymptotic behavior of capacity under covering maps.

In the second part we will introduce the modulus metric and examine a conjecture of J. Ferrand, G. Martin and M. Vuorinen from 1991 that every isometry in the modulus metric is a conformal mapping. We will discuss the tools we used and the method we followed to solve the conjecture in the recent papers [1] and [2].

References:

Baris Coskunuzer, PhD
Boston College
Minimal Surfaces in 3-manifolds

Tuesday, February 12, 2018 at 3:30 p.m. in Electrical Engineering 101
Refreshments will be served in Math 238 at 3:00 p.m.

Abstract

In this talk, we will overview the recent developments in the theory of minimal surfaces, and constant mean curvature surfaces in 3-manifolds.

In particular, we will discuss asymptotic Plateau problem in $H^3$ and $H^2 \times \mathbb{R}$, Calabi-Yau conjecture, and minimal surfaces in hyperbolic 3-manifolds.
Stephen McKeown, PhD
Princeton University

Topics in analysis, conformal geometry
and mathematical physics

Friday, February 15, 2019 at 3:30 p.m. in Experimental Sciences 120
Refreshments will be served in Math 238 at 3:00 p.m.