WENLU - Workshop on Nonlinear Partial Differential Equations and Geometric Analysis
UFPB - Universidade Federal da Paraíba
João Pessoa - Brazil, February 20-24, 2018

Asymptotic Dirichlet and Plateau problems in Cartan-Hadamard manifolds

Ilkka Holopainen*

I will give a survey on asymptotic Dirichlet and Plateau problems in Cartan-Hadamard manifolds. My aim is to introduce three different (but related) methods to approach these problems:

(a) Perron's method and barriers at infinity;

(b) PDE-type approach based on a Caccioppoli inequality and a sub-mean-value inequality;

(c) geometric measure theoretical approach based on mass minimizing currents.

The talk is based on joint works with Jean-Baptiste Casteras (Universite Libre de Bruxelles), Jorge de Lira (UFC), Esko Heinonen (University of Helsinki), and Jaime Ripoll (UFRGS).

*Department of Mathematics and Statistics, University of Helsinki, email: ilkka.holopainen@helsinki.fi