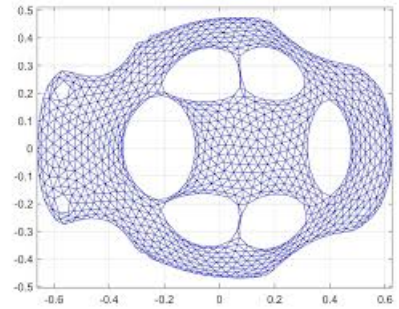


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Physics 2.52
Wednesday December 1, 2021, 10:20



HUBERT SIDLER (UNIFR)

Uniqueness of quasi-isometric harmonic maps into $CAT(0)$ -spaces

In 1990, Schoen conjectured that every quasi-isometric map from the hyperbolic plane to itself is within bounded distance of a unique harmonic map. In 2017, the final missing pieces were proved by Li-Tan and Markovic. Later in 2017, Benoist-Hulin showed existence and uniqueness for quasi-isometric harmonic maps between Hadamard manifolds of negatively pinched curvature.

Recently, in a joint work with Wenger the existence of quasi-isometric harmonic maps from Hadamard manifolds with negatively pinched curvature into proper, Gromov-hyperbolic $CAT(0)$ -spaces was proved. I will talk about the uniqueness part based on an article soon to be submitted. I will introduce a generalization of Rademacher's theorem for Lipschitz maps into spaces of curvature bounded above or below due to Lytchak. This differentiability directly generalizes the classical Frechet differentiability and will allow us to define the Korevaar-Schoen energy for Lipschitz maps in an easier, more direct way. We will heavily use this differentiability in order to generalize a technique by Benoist-Hulin to show uniqueness.