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Existence and regularity of harmonic maps into $CAT(1)$ spaces

The celebrated work of Eells and Sampson initiated a wide interest in the study of harmonic maps between Riemannian manifolds, and harmonic maps have proven to be a useful tool in geometry. A more recent development is the harmonic map theory for non-smooth spaces. The seminal works of Gromov-Schoen and Korevaar-Schoen consider harmonic maps from a Riemannian domain into a non-Riemannian target. Further exploration of harmonic map theory to the singular setting includes works of Jost, J. Chen, Eells-Fuglede and Daskalopoulos-Mese. The above mentioned works all assume non-positivity of curvature. In this talk I will discuss joint work with Breiner, Huang, Mese, Sargent, Zhang on existence and regularity results for harmonic maps when the target curvature is bounded above by a constant that is not necessarily 0.