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**Luca Capogna\*** (lcapogna@uark.edu), Department of Mathematical Sciences, 1 University of Arkansas, Fayetteville, AR 72701. *An Aronsson type approach to extremal quasiconformal mappings.*

In a joint work with A. Raich (U. of Arkansas) we study  $C^2$  extremal quasiconformal mappings in space and establish necessary and sufficient conditions for a ‘localized’ form of extremality in the spirit of the work of G. Aronsson on absolutely minimizing Lipschitz extensions. We also prove short time existence for smooth solutions of a gradient flow of QC diffeomorphisms associated to the extremal problem. (Received January 20, 2011)