1139-30-226 **Vyron Vellis*** (vyron.vellis@uconn.edu), 341 Mansfield Road U1009, Storrs, CT 06269-1009.
Quasisymmetric and bi-Lipschitz extensions on Euclidean spaces.

One of the oldest problems in Geometric Analysis is the extension problem: if $E \subset \mathbb{R}^n$ and $f : E \to \mathbb{R}^n$ is a quasisymmetric (resp. bi-Lipschitz) embedding, when is it possible to extend f to a quasisymmetric (resp. bi-Lipschitz) self homeomorphism of $\mathbb{R}^n$? For $n = 1$ we give a complete answer while for $n = 2$ we generalize previous Schoenflies extension results of Beurling, Ahlfors and Tukia to uniform domains with relatively connected boundary. For $n \geq 3$ we show that any quasisymmetric (resp. bi-Lipschitz) map$f : E \to \mathbb{R}^n$ of a totally disconnected set $E \subset \mathbb{R}^n$ with bounded geometry can be extended to a quasisymmetric (resp. bi-Lipschitz) self homeomorphism of $\mathbb{R}^{n+1}$. (Received February 16, 2018)