COLIN GRANT, McMaster University

Jacobi fields of minimizing planar triple bubbles

A classic question in geometry is as follows: given k prescribed volumes in $\mathbb{R}^n$, what is the least perimeter/surface area configuration in which these volumes can be arranged? The standard double bubble is the globally minimizing configuration for two volumes; it was recently shown that all Jacobi fields of the standard double bubble are generated by infinitesimal rotations and translations (Di Matteo, 2019). We extend this work to the globally minimizing planar standard triple bubble, and consider the planar 'caterpillar' triple bubble. This work was supervised by Dr. Lia Bronsard and Dr. Ken DeMason.