Seminář se koná 12.12. od 17:00 v Mendelově muzeu .

Robert Bryant

The Best Possible Shapes of Surfaces

Abstract: Much of classical mathematics involves finding a configuration or shape that provides an optimum solution to a problem. For example, it has long been known (though a rigorous proof took quite a while to find) that the surface of least area enclosing a given volume is a round sphere. There are many other ways to measure surfaces, though, and finding 'the' surface that optimizes a given 'measurement' (subject to some given constraints) remains a challenging problem that has motivated some of the deepest recent work in the mathematics of geometric shapes.
In this talk, I will explain some of the classic ways to measure shapes of surfaces and relate this to classical problems involving surface area (soap films and bubbles) and total curvature as well to as recent progress by myself and others on these important optimization problems.