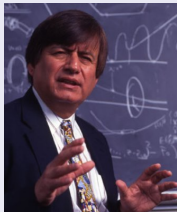


# The Isoperimetric Problem Revisited: A Completion of Euler's 1744 Approach to Necessity



## Speaker Profile:

**Dr. Richard Tapia** is a mathematician and professor in the Computational and Applied Mathematics Department at Rice University. He is internationally known for his research in the computational and mathematical sciences and is a national leader in education and outreach programs. Dr. Tapia also received the **National Medal of Science from President Barack Obama**

**Date:** Tuesday, February 18th

**Time:** 3:00pm

**Location** CRBL 402

**Abstract:** In 1744, in a legendary work, Euler studied the classical isoperimetric problem. Part of his approach was brilliant in that he constructed the world's first visible multiplier rule; yet his overall approach showed considerable mathematical naivete. Euler incorrectly believed he had established sufficiency; when, in reality, he had not even established the necessity that he has been credited with by mathematical historians. Hence, for nearly 300 years there has been a glaring gap in Euler's approach. In this talk, we close this gap by rigorously completing Euler's approach to necessity and sufficiency.



Refreshments will be served 15 minutes before the colloquium.