

Title: "O zeros where art thou?"
Speaker: Tamas Forgacs

Abstract: One of the most well known open questions in mathematics is the Riemann hypothesis, stating that the Riemann zeta function $\zeta(z)$ has all of its (non-trivial) zeros on the line $\operatorname{Re}(z)=1/2$. Related to this conjecture is the investigation of the location of zeros of polynomials, and how the locations may change or be preserved under certain actions. In this talk we will investigate analytic and algebraic manipulations of polynomials and the geometric consequences of such actions. We will define multiplier sequences and will use them as a tool to answer some questions regarding the location of zeros of real-analytic functions. We will then generalize the notion of a multiplier sequence and present results of ongoing undergraduate research at Fresno State in this area.