TEXAS STATE UNIVERSITY

The rising STAR *of Texas*

Differential Equations and Applied Math Seminar

Dr. John McCuan, Georgia Tech

12-1pm November 12th, 2021

Zoom

Title: Self-intersection of nod(oid)al curves

Abstract: Certain meridians of axially symmetric surfaces of constant mean curvature (nodoids) considered by Ch. Delaunay give examples of curves of non-vanishing curvature with periodic tangent map. Similarly, certain elastic curves considered by L. Euler have the same abstract properties. All such curves are self-intersecting and admit limiting examples converging to the circle, but the structure of the set of self intersections can be apparently somewhat complicated. We delineate a collection of abstract properties characterizing a class of curves including these examples and give a relatively simple characterization of the self-intersection set based on two easily identified geometric quantities.

Interested faculty, graduate and undergraduate students are encouraged to attend.