



# Colloquium

**MONDAY, NOVEMBER 10TH, 2025**

**3:30 PM - 4:30 PM | 2048 CB**

## **ELLIPSES INSCRIBED IN DIAGONAL POLYGONS**

**Speaker: Michael Lachance**



Lachance studied mathematics, physics, and French as an undergrad, expecting to become a high school teacher. One thing led to another, and he earned his Ph.D. in 1979 from the University of South Florida, studying mathematics—specifically approximation theory and numerical analysis. He spent 43 happy years teaching mathematics at the University of Michigan-Dearborn, retiring in December 2022. In addition to teaching all those years, he served as the chair of the mathematics department for six years and an associate dean of CASL for seven; he also served as a computer graphics consultant to a local tool & die firm, and to various local companies, including Ford Motor Company and Tarus Industries.

His experiences outside academe had a very strong influence on his attitude toward mathematics and its teaching. The principal tools necessary for computer graphics are numerical analysis, 3D calculus, and linear algebra—with a bit of computer programming. In effect, the curriculum of an undergraduate mathematics major! Make no mistake: these remain powerful tools.

### **Abstract**

A convex pentagon always has an inscribed ellipse, and since that is the case for any convex pentagon, so too does its diagonal pentagon. What is interesting is that knowing one of these inscribed ellipses permits the computation of the other, without referencing the pentagon in which it is inscribed at all. It is natural to ask how these ellipses are connected and what the situation for hexagons is, or for heptagons, for that matter.

**Refreshments will be provided!**