## Department of Mathematics and Computer Science

**Friday, September 21, 2018, 4:10 pm**

**COLLOQUIUM TALK**

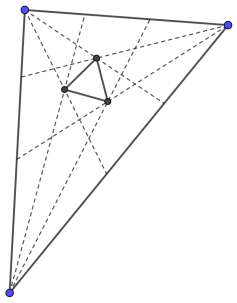
**Speaker: Peter Andrews (EIU)**

**Old Main 2231**

# A Proof of Morley's Theorem Using Complex Analytic Geometry


**Abstract:**

Morley's Theorem states that, "*The points of intersection of the adjacent trisectors of the angles of a triangle are the vertices of an equilateral triangle.*"



This was discovered by Frank Morley in the early 20$^{\text{th}}$ century. He mentioned it to friends in Cambridge and published it some twenty years later. In the meantime, it was rediscovered and presented as a problem in the Educational Times. Two solutions were sent in at that time. Since then there have been numerous proofs of this rather surprising result. In this talk I will present a proof using complex numbers and, in particular, their use in the representation of isometries of the plane. While there is one bit of rather ugly and complicated algebra (which I will pretty much avoid) the rest of the proof is very elementary and should be accessible to all who attend.


SNACKS IN FACULTY LOUNGE AT 3:30 PM.
EVERYONE WELCOME (EVEN IF YOU ARE UNABLE TO ATTEND THE TALK)