

**CCSU**  
**DEPARTMENT OF MATHEMATICAL SCIENCES**

# **COLLOQUIUM**

Friday, May 6

2:00 – 3:00 PM

Maria Sanford, Room 101

## **APPLYING QUATERNIONS TO SOLID AND SPHERICAL GEOMETRY**

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### **Abstract**

The quaternions, discovered by Hamilton in 1843, are an interesting extension of the complex numbers. They consist of the set of all expressions  $a + bi + cj + dk$  where  $a, b, c$  and  $d$  are real and  $i, j$  and  $k$  are non-real numbers satisfying  $i^2 = j^2 = k^2 = ijk = -1$ . Most mathematicians are familiar with the quaternions as an example of a division ring which is not commutative. What is less well known is the applications of quaternions to three dimensional geometry. In this talk we discuss the applications of quaternions in spherical geometry and illustrate some of the ideas that fueled the debate over quaternions versus vectors in the nineteenth century.

***For further information:***

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