CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, October 15
2:00 – 3:00 PM
Maria Sanford, Room 101

REGULAR MAPS ON SURFACES: GEOMETRY, TOPOLOGY AND GROUP THEORY

ROGER VOGELER

CENTRAL CONNECTICUT STATE UNIVERSITY

Abstract: The classical Platonic Solids (cube, dodecahedron, etc.) are well known. There are just five of them, but one way of generalizing them leads to an infinite collection of beautiful structures known as regular maps. The theory is built on the interaction of geometry, topology, and algebra. I will talk about several key parts of this theory, including triangle groups, non-euclidean geometry, and the Euler characteristic. I will also mention some hard problems in the theory of Riemann surfaces that can be somewhat easier to think about in the setting of regular maps. Experts are welcome, of course, but the talk will be designed mainly for undergraduates and other non-experts.