RAHEDRAL GEOMETRY/TOPOLOGY SEMINAR

FIRST ANNOUNCEMENT

DATE: Friday, September 9, 2005

LOCATION: Hempfield High School, Room 213 (directions attached) followed by dinner at a place to be determined.

4:45 TALK: Herman Gluck, University of Pennsylvania

"The Gauss Linking Integral on the 3-sphere and in hyperbolic 3-space"

ABSTRACT: In this talk, which represents joint work with Dennis DeTurck, I will introduce explicit integral formulas for linking, twisting, writhing and helicity on the 3-sphere and in hyperbolic 3-space. They are obtained by developing and then applying a steady-state version of classical electrodynamics in these two spaces, including an explicit formula for the vector-valued Green's operator, an explicit formula of Biot-Savart type for the magnetic field, and a corresponding Ampere's law contained in Maxwell's equations. All the formulas, like their prototypes in Euclidean 3-space, are geometric rather than just topological, in the sense that their integrands are invariant under orientation-preserving isometries of the ambient space. An announcement of most of these results, and a hint of their proofs, can be found in the Math ArXiv, math.GT/0406276.

EVERYONE WELCOME

PLEASE FORWARD THIS ANNOUNCEMENT TO ANYONE INTERESTED

The Tetrahedral Geometry/Topology Seminar is sponsored jointly by Elizabethtown College, Franklin & Marshall College, Lebanon Valley College and Millersville University.