1024-20-141   **Robert Fitzgerald Morse*** (`rfmorse@evansville.edu`), Dept. of Elec. Eng. and Computer Science, University of Evansville, 1800 Lincoln Avenue, Evansville, IN 47722. *Applications of CGT to the theory of groups.*

In this talk we give an overview of how computational group theory has been applied in discovering new results in group theory and show that systems available to working mathematicians can be effectively used to aid in proving new results. Examples include the recent proof that 4-Engel groups are locally nilpotent, classifying p-groups in which the set of commutators and the derived subgroup are not equal and investigating the finite generalized triangle groups particularly the largest of such groups known as the Rosenberger monster. (Received January 06, 2007)