

1096-F1-1192 **Rosemary Carroll Farley*** (rosemary.farley@manhattan.edu), Mathematics Department,
Bronx, NY 10471. *Student Projects to Visualize Iteration Patterns of Matrices with Complex Eigenvalues.*

This presentation will demonstrate how the computer algebra system Maple was used by undergraduate student researchers to create visualizations of the iterates of a point under the action of a 2×2 matrix with complex eigenvalues. When the iterates fell on an ellipse the students found an equation of the ellipse and created an animation to explain the rotation and the scaling involved. The results of these student projects have been used in subsequent courses to clarify this material. The simple four step method used to create such animations will be explained. The value of such projects in terms of linear algebra learned will be discussed. (Received September 13, 2013)