Hermite Normal Form and Applications

Presented By: Frank Romascavage, III., Ph.D. 2017

$$A = \begin{pmatrix} 3 & 3 & 1 & 4 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 19 & 16 \\ 0 & 0 & 0 & 3 \end{pmatrix} \quad H = \begin{pmatrix} 3 & 0 & 1 & 1 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 19 & 1 \\ 0 & 0 & 0 & 3 \end{pmatrix} \quad U = \begin{pmatrix} 1 & -3 & 0 & -1 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & -5 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

Abstract: An introduction to Hermite Normal Form will be discussed. Computational examples will be provided. Then, we will discuss applications. We will conclude by examining an application to lattice based cryptography.

When: Wednesday, September 20th at 7pm
Where: Park 245 or via Zoom
Zoom Info:
Meeting ID: 958 0798 2212
Passcode: 792030