$\mathcal{M}$TCS COLLOQUIUM

Khang Tran

will present

Hilberts Tenth Problem for Gaussian Integers

3:30 pm
Tuesday, March 7th
Violette Hall 1236

In 1900 David Hilbert delivered a famous lecture at the International Congress of Mathematicians in Paris. He identified 23 unsolved problems in mathematics. His tenth problem in the list asked for devising a process with a finite number of operations to determine whether a given Diophantine equation is solvable in rational integers. After completing the negative solution for Hilberts tenth problem in rational integers, mathematicians turned to establishing negative solutions of Hilberts tenth problem in other domains, including Gaussian integers (i.e. there is no algorithm to determine whether a Diophantine equation is solvable in Gaussian integers). The proof for Gaussian integers is based on a reduction to the original Hilberts tenth problem in rational integers. Some refinements can be made in the negative solutions of Hilberts tenth problem in Gaussian integers. This presentation will give the background concerning Hilberts tenth problem for Gaussian integers and explore these refinements.

Cookies and Refreshments!!!