

Undergraduate Mathematics Colloquium

Anastassia Etropolski
Rice University

“The Congruent Number Problem and Elliptic Curves”

Friday September 21

Talk at 4:00 in Herman Brown 227

Tea & cookies at 3:30 in Herman Brown 438

ABSTRACT: An ancient problem in number theory asks which positive integers can arise as the area of a right triangle with rational side lengths. This seemingly elementary question has not only generated a lot of interesting mathematics over the centuries, but remains unsolved and turns out to be equivalent to a subcase of one of the Millennium Prize Problems in mathematics, namely the Birch and Swinnerton-Dyer Conjecture about elliptic curves. I will discuss how these ideas all tie together and give some insight into what the Birch and Swinnerton-Dyer conjecture says and why it is so difficult to prove.

Rice University Department of Mathematics