

Two vignettes on Pythagorean triples

The search for Pythagorean triples—solutions to $X^2+Y^2=Z^2$ where X , Y , and Z are relatively prime positive integers—is one of the oldest and most famous pursuits in math. The Pythagorean theorem was also likely your first experience with the deep interplay between algebra (polynomial equations) and geometry (in this case, right triangles). In this talk, I will show you two very different ways of generating all of the infinitely many Pythagorean triples: one approach has a very geometric flavor, and the other, lesser-known approach is more linear algebraic. Both of these stories about Pythagorean triples will provide you glimpses into my ongoing research classifying certain eight-dimensional spaces called hyperkähler fourfolds. I promise you many pictures!

MSCS Research Seminars
(Some) Fridays at 3:30 pm in RNS 210

By
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Dr. Brooke received his PhD in mathematics from the University of Oregon studying algebraic geometry. He did undergraduate work at St. Olaf and now teaches across the river at Carleton. Outside of mathematics, Corey enjoys looking for and photographing rare plants in their native habitats.

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