Mathematics & Statistics Colloquium

When: Wednesday, December 4, 2:00 pm - 2:50 pm

Where: Lee Drain Building 220

Enumeration of finite inverse semigroups

Martin Malandro
Assistant Professor of Mathematics
Department of Mathematics and Statistics
Sam Houston State University

Just as groups capture symmetries, inverse semigroups capture partial symmetries. In this talk I will discuss some of the history and basic theory of inverse semigroups before discussing my recent work on them.

As n grows, the number of groups of order n (on average) grows much slower than the number of semigroups of order n. In fact, the number of groups of order n is known for n into the thousands, while the number of semigroups of order n is only known for n<=10. The growth rate of the number of inverse semigroups of order n is somewhere in between, but closer to the growth rate of semigroups.

I will discuss a fast parallelizable algorithm for counting the number of inverse semigroups of order n and show the output of this algorithm (which has been running on SHSU's new SAGE server for the last several months) for n<=15.