

## Upstate New York Online Number Theory Colloquium

**Time and Date:** 12:00 pm EST December 07, 2020

**Speaker:** Matt Baker

**Title:** The Algebra of Forgetfulness

**Abstract:** There are several theorems in algebra where one purposely forgets certain information about the coefficients of a polynomial and then sees whether certain properties of the roots can still be determined. A prototypical example is Descartes' Rule of Signs, where we forget everything about a polynomial  $P$  except for the signs of its coefficients and then ask for information about the signs of the real roots of  $P$ . I will explain a novel algebraic framework for systematically understanding results of this type. As time permits, I will discuss connections to matroid theory, including the algebraic foundations underlying the construction of a "moduli space of matroids". This is joint work with Oliver Lorscheid.