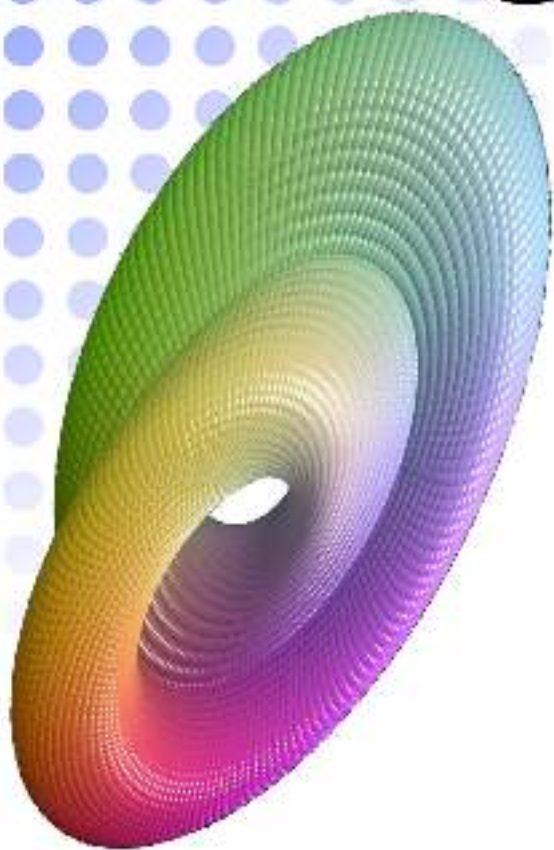# Michigan Math Club

Thursday at 4pm in the Nesbitt Room
Free Pizza and Pop

Thue-Mahler equations and modular forms

Dohyeong Kim

Abstract for 14 September

While there are interesting Diophantine equations that can be tackled using elementary methods, most of them seem attackable only by employing some of the deeper tools in mathematics. A simplest family of such equations is provided by Thue-Mahler equations. I will explain how they can be solved using the theory of modular forms and elliptic curves. The resulting method is concrete enough to produce an algorithm which produces a complete set of solutions to each cubic Thue-Mahler equation.