

1086-AB-1156 **Michael A. Bennett*** (bennett@math.ubc.ca), Department of Mathematics, 1984 Mathematics Road, Vancouver, BC V6T 1Z2, Canada, and **Imin Chen, Sander Dahmen** and **Soroosh Yazdani**. *Generalizing Fermat's Last Theorem*. Preliminary report.

In this talk, we will survey the "state-of-the-art" on generalized Fermat equations of the shape $x^p + y^q = z^r$, where p, q and r are positive integers, the sum of whose reciprocals is less than 1. We will concentrate on infinite families of exponent triples where the corresponding equations have been shown to have no solutions, via methods based upon the modularity of associated Galois representations. Hopefully, we will sketch some future directions of promise. This is joint work with Imin Chen, Sander Dahmen and Soroosh Yazdani. (Received September 19, 2012)