

1152-11-342 **Fang-Ting Tu*** (ftu@lsu.edu), 303 Lockett, Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803. *Hypergeometric Systems*.

The hypergeometric functions over complex field, finite fields, and their truncated versions play important roles in the study of hypergeometric type varieties as they provide abundant arithmetic information regarding these varieties. Based on the connection of hypergeometric varieties with the different versions of hypergeometric functions, I and my collaborators have applied the knowledge we gained to compute L -functions of certain hypergeometric varieties and to solve an open Calabi-Yau threefold problem.

In this talk, I will brief my recent joint works with my collaborators, A. Deines, S. Frechette, J. G. Fuselier, J.W. Hoffman, L. Long, R. Ramakrishna, H. Swisher, N. Yui, and W. Zudilin. Most of the projects are experimental mathematics. (Received September 08, 2019)