1176-20-34 **Christopher P. Bendel**, **Daniel K Nakano*** (`nakano@math.uga.edu`), **Cornelius Pillen** and **Paul Sobaje**. *On verifying Donkin's Tilting Module Conjecture.*

In this talk, I will present a complete answer to Donkin's Tilting Module Conjecture for all rank 2 semisimple algebraic groups and $\mathrm{SL}_4(k)$ where k is an algebraically closed field of characteristic $p > 0$. In the process, new techniques are introduced involving the existence of (p, r)-filtrations, Lusztig's character formula, and the $G_r T$-radical series for baby Verma modules.

These results represent joint work with Christopher Bendel, Cornelius Pillen and Paul Sobaje. (Received January 06, 2022)