1146-35-29 **Jaeho Choi**, **Nitin Krishna**, **Nicole Magill** and **Alejandro Sarria*** (asarria@ung.edu). *On the L^p regularity of solutions to the generalized Hunter-Saxton system.*

The generalized Hunter-Saxton system comprises several well-known models from fluid dynamics and serves as a tool for the study of fluid convection and stretching in one-dimensional evolution equations. In this talk, we discuss the global regularity of periodic smooth solutions of this system in L^p, $p \in [1, \infty)$, spaces for nonzero real parameters (λ, κ). Our results significantly improve/extend those by Wunsch et al. and Sarria. If time allows, we also discuss the effects that different boundary conditions have on the global regularity of solutions by replacing periodicity with a homogeneous three-point boundary condition and establish finite-time blowup of a local-in-time solution of the resulting system for particular values of the parameters. (Received December 11, 2018)