1146-92-311   **Matthew Macauley*** (`macaule@clemson.edu`). *Squarefree pseudomonomials in alebrauc biology.* Preliminary report.

Squarefree pseudomonomials generalize the basic objects of Stanley-Reisner theory, and they have recently arisen in several different areas in mathematical biology, such as encoding place fields in neuroscience, and reverse engineering molecular networks. I will give a short overview of this while shamelessly plugging a new book that discusses both of these applications in the accidental new field of "alebrauc biology". I will talk about my experiences teaching and advising students on these topics at the African Institute for Mathematical Sciences, which coincidentally has a connection with Auburn University through their AU-AUST Collaborative and Masamu Programs. Additionally, I will discuss a current project with a bioengineering lab about reconstructing networks from time-series data generated by gene perturbations and knockouts, including the advantages and disadvantages of using an algebraic framework. This talk will be accessible to everybody. (Received January 25, 2019)