

DREXEL ANALYSIS SEMINAR

May 25, 2018

1-2 PM, Academic 302

Speaker: Benjamin Grossman (Drexel)

Title: The cyclic rank completion problem with regular blocks.

Abstract: We consider the problem of completing the matrix pattern

$$P_C = \begin{bmatrix} A_1 & B_1 & ? & ? & \cdots & ? \\ ? & A_2 & B_2 & ? & \cdots & ? \\ ? & ? & A_3 & B_3 & \ddots & \vdots \\ \vdots & \vdots & \ddots & \ddots & \ddots & ? \\ ? & ? & \cdots & ? & A_{k-1} & B_{k-1} \\ B_k & ? & \cdots & ? & ? & A_k \end{bmatrix}$$

with the goal of attaining the minimal possible rank. In the above, the matrices A_i, B_i are invertible and the ?s represent unknown $n \times n$ matrices. In particular, we outline the proof of an upper bound given by [Cohen and Pereira in a paper from 2017](#).