

Department of Mathematics, BGU

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## Combinatorics Seminar

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*On Monday, May 21 2018*

*At 14:10 – 15:10*

*In 101-*

Yotam Svoray (BGU)

will talk about

### **A Combinatorial Game and an Efficiently Computable Shift Rule for the Prefer Max De Bruijn Sequence**

**Abstract:** We present a two-player combinatorial game over a  $k$ -ary shift-register and analyze it. The game is defined such that, for each of the player, the only way to avoid losing is to play such that the next state of the game is the next window in the well known prefer-max De Bruijn sequence. We then proceed to solve the game, i.e., to propose efficient algorithms that compute the moves for each player. Finally, we show how these algorithms can be combined into an efficiently computable shift-rule for the prefer-max sequence.