

Department of Mathematics, BGU

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# AGNT

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*On Wednesday, June ,5 2024*

*At 14:10 – 15:10*

*In 101-*

Amnon Yekutieli (Ben Gurion University)

will talk about

## **Adic Completion, Derived Completion, Prisms, and Weak Proregularity**

Abstract: The lecture will start with a few useful (and probably new!) theorems on adic completion of commutative rings and modules. Then I will discuss derived adic completion, in its two flavors: the idealistic and the sequential. The weak proregularity (WPR) condition on an ideal  $\mathfrak{a}$  in a ring  $A$ , which is a subtle generalization of the noetherian condition on the ring  $A$ , is a necessary and sufficient condition for the two flavors of derived completion to agree. WPR occurs often in the context of perfectoid theory, and I will finish the talk with theorems relating WPR to prisms.

Typed notes available soon at the bottom of this web page:

<https://sites.google.com/view/amyekut-math/home/lectures>