Department of Mathematics, BGU

Jerusalem - Be'er Sheva Algebraic Geometry Seminar

On *Wednesday, January ,6 2021*

At *15:00 − 16:30*

In

Liran Shaul (Charles University, Prague (

will talk about

Derived quotients of Cohen-Macaulay rings

Abstract: It is well known that fi A is a Cohen-Macaulay ring and $a_1,\dots,a_n$ is an A-regular sequence, then the quotient ring $A/(a_1,\dots,a_n)$ is also a Cohen-Macaulay ring. In this talk we explain that by deriving the quotient operation, fi A is a Cohen-Macaulay ring and $a_1,\dots,a_n$ is any sequence of elements in A, the derived quotient of A with respect to $(a_1,\dots,a_n)$ is Cohen-Macaulay. As an application, we generalize the miracle flatness theorem to derived algebraic geometry. As another application, given a morphism $f:X\to Y$ from a Cohen-Macaulay scheme to a nonsingular scheme, we show that the homotopy fiber of f at every point is Cohen-Macaulay.