Department of Mathematics, BGU

## Jerusalem - Be'er Sheva Algebraic Geometry Seminar

**On** Wednesday, December ,23 2020

At 15:00 - 16:30

In

Mihran Papikian (Pennsylvania State University)

will talk about

## Drinfeld discriminant function and Fourier expansion of harmonic cochains

Abstract: I will discuss my joint work with Fu-Tsun Wei from Tsing Hua University in Taiwan.

Let  $K\$  be the completion of  $\mthbl{F}_q(T)\$  at  $1/T\$  and  $r\gq 2\$  be an integer. In an ongoing project, we study modular units on the Drinfeld symmetric space  $\Omega^r\$  over  $K\$ , harmonic cochains on the edges of the Bruhat-Tits building of  $PGL_r(K)\$ , and the cuspidal divisor groups of certain Drinfeld modular varieties of dimension  $r-1\$ . In particular, we obtained a higher dimensional analogue of a well-known result of Ogg for classical modular curves  $X_0(p)\$  of prime level.