

Department of Mathematics, BGU

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# AGNT

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*On Wednesday, January 5, 2022*

*At 16:00 – 17:15*

*In 101-*

Daniel Disegni (BGU)

will talk about

## **Theta cycles**

Abstract: I will discuss results and open problems in an emerging theory of ‘canonical’ algebraic cycles for all motives enjoying a certain symmetry. The construction is inspired by theta series, and based on special subvarieties in arithmetic quotients of the complex unit ball. The ‘theta cycles’ seem as pleasing as Heegner points on elliptic curves: (1) their nontriviality is detected by derivatives of complex or p-adic L-functions; (2) if nontrivial, they generate the Selmer group of the motive. This supports analogues of the Birch and Swinnerton-Dyer conjecture. I will focus on (2) whose proof combines the method of Euler systems and the local theta correspondence in representation theory.