HACETTEPE UNIVERSITY

July 25, 2024
Thursday
14:00

Zoom Link: **URL**
Meeting ID: 824 5317 7642
Passcode: 778766

DEPARTMENT OF
MATHEMATICS

GENERAL SEMINAR

SPEAKER

Mohamed Yousif
Ohio State University, United States

TITLE

Hypercyclic Rings

ABSTRACT

A simple right R-module S over a ring R is called hypersimple if its injective hull $E(S)$ is cyclic, and a ring R is called right hypersimple if every simple right R-module is hypersimple. We initiate a study of these new notions, and revisit Osofsky's work on hypercyclic rings, i.e. rings whose cyclic right modules have cyclic injective hulls. We will point out several open problems on hypercyclic rings, and highlight a gap in the proof of one of the main results in [B. Osofsky, Pacific J. Math. 25: 331--340, (1968)], where it was claimed that if R is a semilocal right hypercyclic ring, then $soc(R_{R})\subseteq {}^{ess}R_{R}$. Moreover, we will provide a study of the rings R whose injective hull $E(R_{R})$ is cyclic, extending and simplifying many of the known results on the subject, and obtaining new ones.

This is a joint work with Yiqiang Zhou (Memorial University of Newfoundland, Canada) and Christian Lomp (Universidade do Porto, Portugal).