

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, November 10

4:30 – 5:30 PM

Maria Sanford, Room 101

TOTALLY REFLEXIVE MODULES OVER STANLEY REISNER RINGS

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Abstract: In this talk we will discuss the basics of Stanley Reisner rings and how they are useful in finding examples of totally reflexive modules.

Totally reflexive modules, also known as Gorenstein projective modules, can be precisely defined using tools from homological algebra. The abundance of such modules has been well established, as the category of totally reflexive modules is either trivial (consisting only of free modules) or is of wild representation type. However, the question of describing them over specific rings is still open. To investigate this, we consider rings that are constructed from graphs (and their higher dimensional analogs called simplicial complexes) known as Stanley Reisner rings.

Parts of this talk are joint work with Graham Leuschke, Syracuse University.

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