Algebra Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Zach Teitler
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Friday, November 13, 2009
12:45 PM
125 Hayes-Healy Hall

Title: Multiplier ideals and an application to commutative algebra

Abstract:

In 2001 Ein--Lazarsfeld--Smith showed the following: Let Z be a set of points in the plane and m an integer. If a polynomial F vanishes at each point of Z to order at least 2m, then F is in the m'th power of the ideal of Z. This statement is appealingly classical-sounding, yet the only known proofs involve modern techniques such as multiplier ideals. I will introduce multiplier ideals and explain how they give the Ein--Lazarsfeld--Smith result. I will discuss some of the many open questions in this area, both about multiplier ideals and about efforts to improve the Ein--Lazarsfeld--Smith result.