

Harvard-MIT Algebraic Geometry Seminar

# Factorial Threefolds

**Ivan Cheltsov**

University of Edinburgh

Ciro Ciliberto conjectured that a nodal threefold hypersurface of degree  $d$  is factorial if it has at most  $(d-1)(d-1) - 1$  nodes. This is a special case of a Cayley-Bacharach type conjecture by Eisenbud, Harris and Green. The bound  $(d-1)(d-1) - 1$  is sharp. We show how to prove this conjecture.

References:

<http://arxiv.org/abs/0803.3301>

<http://arxiv.org/abs/math/0511673>

<http://arxiv.org/abs/math/0511578>

<http://arxiv.org/abs/math/0405221>

Tuesday May 12th  
3:00 p.m.  
MIT (24-115)