

# Queen's Algebraic Geometry — Seminar —

## GENERALIZING SEPARATORS OF POINTS

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### Abstract

Let  $\mathbb{X} = \{P_1, \dots, P_s\}$  be a set of points in  $\mathbb{P}^n$  and fix a point  $P \in \mathbb{X}$ . A homogeneous form  $F \in R = k[x_0, \dots, x_n]$  is a separator of  $P$  if  $F(Q) = 0$  for all  $Q \in \mathbb{X} \setminus \{P\}$ , but  $F(P) \neq 0$ . We let  $\deg_{\mathbb{X}}(P) = \min\{\deg F \mid F \text{ is a separator of } P\}$ . In this talk, I will begin by reviewing some of the properties of a separator and the invariant  $\deg_{\mathbb{X}}(P)$ . I will then discuss work on generalizing this notion to points in multi-projective space, and to fat points in projective space. My talk will be based upon joint projects with Elena Guardo and Lucia Marino.

Monday, October 20, 2008  
4:30pm – 5:30pm  
319 Jeffery Hall