

# Queen's Algebraic Geometry — Seminar —

## LINEAR SERIES, CUP-PRODUCTS, AND THE CANONICAL BUNDLE OF A CURVE

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### Abstract

There is a beautiful and important geometric connection between the fact that the Petri-map:  $H^0(L) \otimes H^0(L^* \otimes \omega_C) \rightarrow H^0(\omega_C)$  is injective, for the general curve  $C$  of genus  $g$  and all line bundles  $L$  on  $C$ , and the varieties  $C_d^r, W_d^r(C)$  and  $G_d^r(C)$  of special linear series on  $C$ . It was K. Petri who, in 1925, conjectured that this map was indeed injective; a conjecture later proven by D. Gieseker in 1982. In this talk I would like to describe this connection in order to motivate and state a problem suggested to me by Mike Roth.

Monday, March 22, 2010  
3:00pm – 4:00pm  
319 Jeffery Hall