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**Scoil na  
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## Algebra and Number Theory Seminar

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**Dr Rachel Quinlan (NUIG)**

will speak on

### **A question about vector space endomorphisms**

Mon 15th February 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Let  $V$  be a vector space of dimension  $n$  over a field  $F$ , and let  $\text{End}(V)$  denote the space of  $F$ -linear transformations of  $V$ . We will discuss the following question, which is motivated by a problem in finite group theory. Suppose that  $g$  is a non-zero element of  $\text{End}(V)$ . What is the minimum possible dimension of a subspace  $X$  of  $\text{End}(V)$  not containing  $g$  but having the property that for every hyperplane  $H$  of  $V$ , there is an element of  $X$  that coincides with  $g$  on  $H$ ?

This talk is part of the **Algebra and Number Theory** series. For more, see  
<https://maths.ucd.ie/seminars>