

# Ferroelectric Control of Ferromagnetism

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-12.15pm-  
-Thursday 6th March 2008-

## - Abstract -

“Multi-ferroic”, especially referring to systems with a coupled ferroelectric-ferromagnetic response, has been of buzzword interest for some years. It is argued that they provide a number of promises for exploitation. The weakness of coupled ferroelectric and ferromagnetic responses in homogeneous materials has driven a search in composites, with ferromagnetic and ferroelectric components coupled by strain across interfaces. A more promising alternative would have the response in one channel driven by the *field* of the other, but that search has so far been unfruitful. However, late last year the Ceramics Laboratory at EPFL overcame a number of processing problems to demonstrate a ferroelectric-gate field-effect transistor (FeFET) on (Ga,Mn)As that shows a strong and quantitatively modelled electro-magnetic coupling. In this talk I will briefly discuss magneto-electric multi-ferroics, their promise and problems, and describe our FeFET results.

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## - Venues -

Rankine Brown 106, Victoria University of Wellington  
Level 1, Psychology Building, University of Canterbury  
Teaching Facilities, South West corner, Information Services Building, University of Otago  
Graduate Centre 119 - g21, University of Auckland



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