Northeastern University
College *of* Engineering

Please join us for a

## Chemical Engineering Seminar

**Friday, June 3, 2011**
442 Dana Research Center
1:30 p.m. – 2:30 p.m.

# *"Current Driven Domain Wall Motion"*


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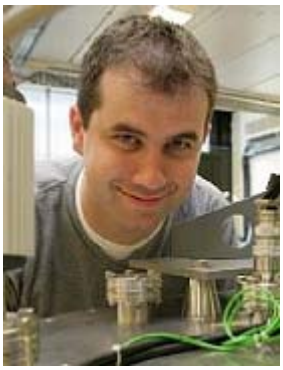
## ABSTRACT




Maxwell's equations tell us that magnetisation may only be manipulated using magnetic fields. As a classical theory they do not capture the collective effects in the solid state that are now being exploited in the field of spintronics, where it is now possible to manipulate magnetism in nanostructures using spin-polarised currents. Here I will describe a series of recent experiments where magnetic domain walls are pushed, depinned, manipulated, and made to resonate using such currents, and explore the means by which the very high current densities currently needed might be reduced to allow these effects to be exploited in novel information technologies.


**Brief Biography:** Chris Marrows is Reader in Condensed Matter Physics, and was previously a lecturer, and before that an 1851 research fellow, funded by the Royal Commission for the Exhibition of 1851.

**Refreshments will be served.**