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# K-Theory, Quadratic Forms and Number Theory Seminar

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## Dr John Cosgrave (http://staff.spd.dcu.ie/johnbcos/)

will speak on

## Extensions of the Gauss-Wilson theorem

Wed 26th March 2008 at 5:00PM

Location: Mathematical Sciences Seminar Room

Karl Dilcher and I have made the first extension of the G-W theorem since the appearance of Gauss' Disquisitiones. Defining $N_n! - the'Gaussfactorial'ofNwithrespectton - tobetheproductoftheresidueclassesin[1,N]thatarerelativelyprimeton,wehavegivenacompletedeterminationoftheor 1/2)_n!modn.Thisisacompositemodulusextensionof Mordell's1961resultconcerningtheorderof(p- 1/2)!modp(primep)$.

I will outline work-in-progress concerning the order of (n-1/M)$_n$!$modnforM = 3and4, introduceanewclassofprimes(Ga 4primes), andoutlineanumberofopenproblems.$

This talk is part of the **K-Theory, Quadratic Forms and Number Theory** series. For more, see
`https://maths.ucd.ie/seminars`