



UCD School of
Mathematics and Statistics

University College Dublin
Belfield, Dublin 4, Ireland

Tel +353 1 716 2580
Fax +353 1 716 1196

Scoil na
Matamaitice agus na Staitisticí UCD

An Coláiste Ollscoile, Baile Átha Cliath
Belfield, Baile Átha Cliath 4, Éire

Email seminars@maths.ucd.ie
Web maths.ucd.ie/seminars

Algebra and Number Theory Seminar

Dr Habil Marcus Greferath (UCD)

will speak on

**Some new insight into the algebraic representation of Best's
(10, 40, 4) code**

Mon 29th March 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Best's (10,40,40) code is a binary code with an optimal number of codewords. By its cardinality it is apparent that it cannot be represented as a linear code over any local ring alphabet over a local ring. Nonetheless, it was represented as a non-linear (5,40,4) code over \mathbb{Z}_4 by Conway and Sloane: the charm of this representation in terms of this pentacode stems from the fact that it gives rise to more insight into the structure of the code in question. This talk revisits the pentacode and derives a so far unknown algebraic representation for it.

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