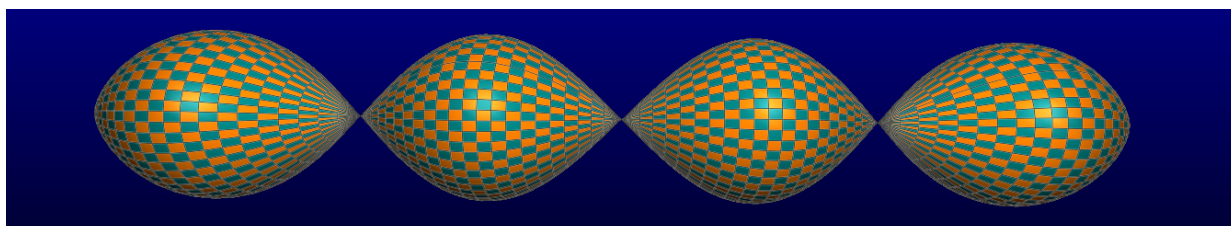


Yorkshire Durham Geometry Day



Wednesday 29 October, 2014

Department of Mathematics, University of York

11.20 **Coffee or Tea** *Maths Coffee Room (G109, James College)*

12.00 **Fran Burstall** (Bath) *Room PT005 (Physics)*

“Harmonic maps and line congruences”

1.00 **Lunch** *Edge (Wentworth College)*

2.00 **Magdalena Rodriguez** (Granada) *Room PL002 (Physics)*

“Minimal surfaces”

3.00 **Dmitri Panov** (King’s College, London) *Room PL002*

“The telescopic construction”

4.00 **Tea or Coffee** *Maths Coffee Room (G109, James)*

4.40 **Xenia de la Ossa** (Oxford) *Room PL002*

“Moduli space of heterotic string compactifications”

All are welcome. There will be an early evening meal in York for those able to stay.

Abstracts

Harmonic maps and line congruences. (Fran Burstall)

Many classes of surface (or their contact lifts) may be viewed as line congruences in some projective space. In this context, the classical Laplace invariant provides a functional which specialises to several of classical and topical interest, such as the Willmore functional. I shall describe this circle of ideas and show how it gives a uniform approach to some variational problems in parabolic geometry and to the harmonic Gauss maps of their solutions.

The telescopic construction. (Dmitri Panov)

This talk is about the telescopic construction that was obtained jointly with Anton Petrunin. Our result states that the quotient of three dimensional hyperbolic space by a co-compact group of isometries can have arbitrary fundamental group. I will describe the telescopic construction and will give its various applications including the result of Taubes on the fundamental groups of complex three-manifolds.