GLEN seminar

ICMS Edinburgh, Friday 9 December 2016

14:00 Michael Wong (Essen):

Open de Rham Spaces

By an open de Rham space, we mean a moduli space of meromorphic connections over the trivial bundle over the projective line. We will discuss various aspects of these spaces: their relation to varieties associated to a weighted quiver, the existence of hyperkaehler metrics, the computation of some algebraic invariants, and a generalization of a conjecture of Hausel--Letellier--Rodriguez-Villegas. This is a report on work with Tamás Hausel and Dimitri Wyss.

15:10 Peter Samuelson (Edinburgh)

Knot complements and affine cubic surfaces

There is a natural map α from the SL(2) character variety of a knot complement to the character variety of Z^2 given by restricting representations from the complement to its boundary. The target of α can be realized as a cubic surface in $\mathbb{C}^3$. We will explain a conjecture with Berest that the map α has a canonical 2-parameter deformation whose target is a 2-parameter family of affine cubic surface. We also briefly discuss the relation to Hecke algebras and the Brumfiel-Hilden algebra.

 16:30 Marina Logares (Oxford)

Parabolic Higgs bundles and Generalised Parabolic Higgs bundles

Higgs bundles are well known objects which provide solutions to Hitchin equations on a compact Riemann surface X. When X is non-compact the corresponding objects solving the Hitchin equations for logarithmic connections are the so called Parabolic Higgs bundles. If one wants to go further and consider singular algebraic curves, like the ones provided by shrinking one of the generators of the fundamental group of X, then the corresponding objects where introduced by Seshadri and developed by Bhosle and they are known as Generalised Parabolic Higgs bundles. We are going to give an overview on the known results about the moduli spaces corresponding to these objects.