



Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 29. Juni 2021

17 Uhr, virtuelles Meeting mit
[Zoom](#)

Meeting ID: 699 9726 9389

Passwort: 81505154

Prof. Dr. Philip Boalch

(Jussieu-Paris Rive Gauche)

Diagrams, wild nonabelian Hodge spaces and global Lie theory

Abstract:

The classical theory of systems of linear differential equations in the complex domain morphed into the theory of connections on curves, and then morphed again into "2d gauge theory", a highpoint being the nonabelian Hodge theorem of Hitchin-Simpson-Corlette-Donaldson. However along the way, a sleight of hand was done: the passage to compact Riemann surfaces, thereby avoiding the tricky problem of understanding boundary conditions on noncompact Riemann surfaces. The good news is that these tricky problems were solved by mathematicians working in France some 20 years ago, a key step being to understand the classical papers on irregular singularities.

This led to the wild nonabelian Hodge theorem on curves, and a huge bestiary of new complete hyperkahler manifolds, now encompassing the classical examples of integrable systems stemming from work of Painleve, Schlesinger, Garnier, Moser, Mumford, Seiberg-Witten and others. In this talk I'll review/describe some of the simplest examples, sketch how to describe them topologically in terms of Stokes local systems (generalising the usual fundamental group representations) and recent steps to define a theory of ``Dynkin diagrams'' to classify these new nonabelian Hodge moduli spaces.

**Vor dem Vortrag (ab 16.30 Uhr) besteht das Angebot auf ein Treffen zu einem virtuellen Tee.
Dafür wird der Raum um 16:30 Uhr geöffnet.**