

## **A new approach to monopole moduli spaces**

**11. Juni 2026 – 16:15 Uhr**  
**Raum 7.530**

Abstract: Monopole moduli spaces are examples of complete Riemannian manifolds with holonomy  $Sp(n)$ . They exist for an arbitrary compact Lie group and are a fruitful testing ground for conjectures arising from high energy physics. While these moduli spaces, as originally defined in 3-dimensional gauge theories, are very hard to analyse, a handle is provided by the Nahm transform, a generalisation of the Fourier transform, which replaces PDEs with ODEs. Such a transform is known to exist, however, only for a limited class of monopoles moduli spaces.

In my talk I'll present a different approach to these moduli spaces and to the Nahm transform, which is based on predictions of quantum supersymmetric gauge theories (but is mathematically sound). This is joint work with Lorenzo Foscolo.

