

## Algebraic Geometry Seminar

### *Complex analytic compactifications of moduli spaces of Yang-Mills connections*

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**Abstract:** For a complex projective manifold  $(X, \omega)$  the Kobayashi-Hitchin correspondence gives homeomorphisms between moduli spaces of irreducible Hermitian-Yang-Mills connections and moduli spaces of stable vector bundles on  $X$ . A by now classical paper of Jun Li from 1993 shows that when  $X$  is two-dimensional this correspondence can be extended as a homeomorphism between natural compactifications of these moduli spaces existing on the gauge theoretical and on the algebraic geometric side, respectively. As a consequence one gets a complex analytic structure on the Donaldson-Uhlenbeck compactification of the moduli space of Hermitian-Yang-Mills connections on a fixed hermitian vector bundle on  $X$ . In this talk we present joint recent work together with Daniel Greb, Benjamin Sibley and Richard Wentworth extending these results to the higher dimensional situation.

Wednesday, October 3 at 4:00 PM in 427 SEO