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*Constructing solutions of Hitchin's equations near the ends of the moduli space*

Hitchin's equations are a system of gauge theoretic equations on a Riemann surface that are of interest in many areas including representation theory, Teichmüller theory, and the geometric Langlands correspondence. In this talk, I'll describe what solutions of  $SL(n, \mathbb{C})$ -Hitchin's equations "near the ends" of the moduli space look like, and the resulting compactification of the Hitchin moduli space. Wild Hitchin moduli spaces are an important ingredient in this construction. This construction generalizes Mazzeo-Swoboda-Weiss-Witt's construction of  $SL(2, \mathbb{C})$ -solutions of Hitchin's equations where the Higgs field is "simple."