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CENTER OF MATHEMATICAL SCIENCES AND APPLICATIONS  
**ALGEBRAIC GEOMETRY IN  
STRING THEORY SEMINAR**

**Ming Zhang**  
UCSD

*will speak on:*

Equivariant Verlinde algebra and quantum K-theory of the moduli space of vortices

**Tuesday, April 19, 2022**  
**9:30 – 10:30 am**

For information on how to join, please see:

**<https://cmsa.fas.harvard.edu/seminars-and-colloquium/>**

In studying complex Chern-Simons theory on a Seifert manifold, Gukov-Pei proposed an equivariant Verlinde formula, a one-parameter deformation of the celebrated Verlinde formula. It computes, among many things, the graded dimension of the space of holomorphic sections of (powers of) a natural determinant line bundle over the Hitchin moduli space. Gukov-Pei conjectured that the equivariant Verlinde numbers are equal to the equivariant quantum K-invariants of a non-compact (Kähler) quotient space studied by Hanany-Tong.

In this talk, I will explain the setup of this conjecture and its proof via wall-crossing of moduli spaces of (parabolic) Bradlow-Higgs triples. It is based on work in progress with Wei Gu and Du Pei.