

*Department of Mathematics,  
University of California San Diego*

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## Final Defense

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UC San Diego

# Virtual invariants of Quot schemes of surfaces

### Abstract:

Quot schemes are fundamental objects in moduli theory of algebraic geometry. We show that the generating series of certain virtual invariants of Quot schemes of surfaces are expressed by the universal series and Seiberg-Witten invariants. We apply this to several cases including homological and K-theoretic descendent series, reduced invariants of K3 surfaces, virtual Segre and Verlinde series. In particular, descendent series are shown to be rational functions whenever the curve class is of Seiberg-Witten length  $N$ .

Advisor: Dragos Oprea

**Monday, November 23, 2020**

**9:00 AM**

**Zoom Meeting ID: 983 4946 1820 (no  
password)**

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