



## *Graduate Mathematics Seminar*

### **Operator Algebras Generated by Left Invertibles**



**Speaker: Dereck Desantis**

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**Abstract:** In this talk, we investigate the norm closed operator algebra generated by a single left invertible operator  $T$  in  $\mathcal{B}(\mathcal{H})$  with a canonical left inverse (the Moore-Penrose inverse). This algebra has a rich operator algebraic structure that mimics the Toeplitz algebra. We are particularly interested in a class of left invertible operators we call analytic. The adjoints of analytic left invertible operators are Cowen-Dogulas, an important class of operators that serve as a bridge between operator theory and complex geometry. Consequently, we can represent  $T$  as multiplication by  $z$  on a reproducing kernel Hilbert space of analytic functions. Using tools of Cowen-Douglas theory, we reduce the challenge of classifying these algebras into more tractable geometric problems.

**When:** Monday, February 28th, 2022, 6:00 - 7:00 pm PST

**Where:** Zoom ( <https://csuci.zoom.us/j/83072598082> )