The Bessel operator is the differential operator $-\frac{d^2}{dx^2} - \frac{2\lambda}{x} \frac{d}{dx}$. Akin to how the Riesz transforms and $BMO$ are connected to the usual Laplacian, there are analogous operators and function spaces associated to the Bessel operator. In this talk we will discuss some results connected to commutators related to the Riesz transform associated to the Bessel operator and the characterization of boundedness of these commutators in terms of $BMO$ functions associated to the Bessel operator.

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