

Thursday, May 9<sup>th</sup>, 17:00-18:00

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## SMOOTHING PROPERTIES OF BILINEAR OPERATORS AND LEIBNIZ-TYPE RULES IN LEBESGUE AND MIXED LEBESGUE SPACES

In this talk we will describe the smoothing effect of bilinear fractional integral operators and similar multipliers, in the sense that they improve the regularity of functions. We will also consider bilinear singular multiplier operators which preserve regularity and use them to obtain several Leibniz-type rules in the contexts of Lebesgue and mixed Lebesgue spaces. If time permit we will also discuss related results for bilinear maximal functions. The talk is based on joint work with Jarod Hart and Xinfeng Wu.