

## **Seminario Aleatorio**

*Sesión 425*

### **Extremile scalar-on-function regression with application to climate scenarios**

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#### **Abstract**

Extremiles provide a generalization of quantiles which are not only robust, but also have an intrinsic link with extreme value theory. This paper introduces an extremile regression model tailored for functional covariate spaces. The estimation procedure turns out to be a weighted version of local linear scalar-on-function regression, where now a double kernel approach plays a crucial role. Asymptotic expressions for the bias and variance are established, applicable to both decreasing bandwidth sequences and automatically selected bandwidths. The methodology is then investigated in detail through a simulation study. Furthermore, we highlight the applicability of the model through the analysis of data sourced from the CH2018 Swiss climate scenarios project, offering insights into its ability to serve as a modern tool to quantify climate behaviour.

**Viernes 16 de agosto de 2024,  
Salón 301 ITAM, Campus Río Hondo  
13:00 horas de CDMX**